

Permit Reissuance Application

Town of Stuart Wastewater Treatment Plant

VPDES Permit No. VA0022985

CHA Project Number: 24794

Prepared for:

***Town of Stuart
Wastewater Treatment Plant
P.O. Box 422
Stuart, VA 24171***

Prepared by:



*1901 Innovation Drive
Suite 2100
Blacksburg, VA 24060
Phone: (540) 552-5548
Fax: (540) 552-5577*

December 14, 2012



V:\Projects\BVA\24794\Permitting\cover.docx



February 12, 2013

Ms. Becky L. France
Water Permit Writer
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019



**Re: Supplemental Information for, Town of Stuart Wastewater Treatment Plant
VPDES Permit Reissuance; VPDES Permit No. VA0022985; CHA Project No. 24794**

Dear Ms. France:

The Town of Stuart recently submitted the original Virginia Pollutant Discharge Elimination System (VPDES) permit reissuance application for the Town of Stuart Wastewater Treatment Plant (WWTP). The following documents are provided to supplement the previously submitted DEQ Sewage Sludge Application, as requested by your January 29, 2013 email:

1. Section 10: The signed land application agreement between K.P. Hill Dairy, Inc. and the Town of Stuart is enclosed. All of the land application sites are owned by K.P. Hill Dairy, Inc.
2. Section 12 Part C: Margaret Bayne of the U.S. Fish and Wildlife Service was notified of the land application activities and land application sites. A copy of the notification letter and map are included. The numbering of the fields is consistent with the 2008 application submittal. Field 3, which was included in the 2008 submittal, is not included in this application.
3. Section 12 Part D: A soils inventory and evaluation of the land application sites was previously conducted by the Virginia Cooperative Extension Service to determine the suitability of the sites for sludge application. The results of this evaluation were submitted in the 2008 application. A soil survey map and the report from the evaluation are enclosed.
4. Section 9: The land area requirements were determined previously and were included in the 2008 application. The drawings and calculations from this analysis are enclosed.

Ms. Becky L. France

February 12, 2013

Page 2 of 2

All other available information was included in the original application. In addition to the Sewage Sludge Application information referenced above, we have also enclosed the signed and dated EPA Form 2A certification page.

Please do not hesitate to contact me at (540) 552-5548 or Andrew Dalton, Town of Stuart – Plant Manager at (276) 694-4477 should you have any questions or require any additional information.

Sincerely,


R. Lawrence Hoffman
Vice President

RLH/egl

Enclosures

cc: Andrew Dalton, Plant Manager, Town of Stuart (w/enclosures)

CHIA



January 3, 2013

Ms. Becky L. France
Water Permit Writer
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

**Re: Permit Reissuance, Town of Stuart Wastewater Treatment Plant;
VPDES Permit No. VA0022985; CHA Project No.: 24794**

Dear Ms. France:

The Town of Stuart recently submitted the original signed Virginia Pollutant Discharge Elimination System (VPDES) permit reissuance application for the Town of Stuart Wastewater Treatment Plant (WWTP). This submittal included Form 2A, the VPDES Sewage Sludge Permit Application Form, the DEQ Application Addendum, the Public Notice Billing Information Form, and the Virginia DEQ No Exposure Certification for Exclusion from VPDES Storm Water Permitting Form. Also enclosed in the application package were the laboratory reports used to prepare the application and not previously submitted to DEQ. As indicated on the sludge application, the facility currently disposes of sludge in a municipal landfill. However, the facility would like to keep the option of disposal by land application and has included the applicable information on the application form.

The following requests are submitted by CHA Consulting, Inc. on behalf of the Town:

1. EPA Form 2A Part A.12 Effluent Testing Information: For the parameters in the permit requiring 8-hour composite samples (TSS and BOD), we request a waiver so that the results reported as part of the facility's VPDES permit monitoring may be used in the application in lieu of the 24-hour composite samples required for the application.
2. EPA Form 2A Part B.6 Effluent Testing Information (Greater than 0.1 MGD Only): With the exception of Total Residual Chlorine (TRC), the facility does not currently sample for the parameters in this list. However, during the month of October 2012, one sample of each of these parameters was collected for analysis: ammonia, TKN, nitrate plus nitrite nitrogen, phosphorus, and total dissolved solids. For these parameters, we request a waiver to allow the submission of data from one (1) sample in lieu of three (3) samples required by the permit application. The facility has collected and reported three (3) sets of data for dissolved oxygen and oil & grease as required by this section of the permit application.
3. EPA Form 2A Part D. Expanded Effluent Testing Data: Dissolved metals data was collected for use in the water quality criteria monitoring (Attachment A) in October 2012, and no total recoverable metals data is required by the facility's permit. In addition, the water quality standards established by the Commonwealth of Virginia area based on the dissolved form of metals. As

"Satisfying Our Clients with | 1901 Innovation Drive, Suite 2100, Blacksburg, VA 24060
Dedicated People Committed to Total Quality" | T 540.552.5548 • F 540.552.5577 • www.chacompanies.com

such, we request that the dissolved metals data collected for the water quality criteria monitoring and reported on Form 2A be accepted in lieu of total recoverable metals data as indicated on the permit application.

4. DEQ Sewage Sludge Application Section A.8: The facility does not currently analyze sludge (biosolids) for chromium and total chromium is not used to determine the acceptability of the sludge for land application or landfill disposal. One sample was collected and analyzed in November 2012 and has been reported on the sludge application form. The permit application indicates that the data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old. We request a waiver from the requirement for two (2) additional analyses for of chromium and request that the one (1) sample be deemed acceptable for this one parameter.

All other available information has been included in the application.

Please do not hesitate to contact me at (540) 552-5548 or Andrew Dalton, Town of Stuart – Plant Manager at (276) 694-4477 should you have any questions or require any additional information.

Sincerely,



R. Lawrence Hoffman
Vice President

RLH/egl

cc: Andrew Dalton, Plant Manager, Town of Stuart



ENTERED

December 13, 2012

Mr. Andrew Dalton, Plant Manager
Town of Stuart Wastewater Treatment Plant
P.O. Box 422
Stuart, Virginia 24171

Re: Town of Stuart VPDES Permit Application; CHA Project Numbers: 24794

Dear Andrew:

Enclosed for your review and signature are draft versions of the VPDES permit reissuance application documents for the reissuance of the VPDES permit for the Town of Stuart Wastewater Treatment Plant. These application documents include:

1. EPA Form 2A – This form provides general information and process wastewater discharge and characteristics information. This application form will need to be signed on page 9 of 21 prior to submittal to the DEQ;
2. VPDES Sewage Sludge Permit Application Form – This form provides general information regarding biosolids (sludge) production and disposal and will need to be signed on page 4 of 16 prior to submittal to the DEQ;
3. DEQ Application Addendum – This form provides additional information to assist the permit writer in preparing the permit. No signature is required for this form;
4. Public Notice Billing Information Form – This form authorizes the DEQ to have the cost of publishing a public notice billed to the WCSA. This form needs to be signed where indicated; and
5. Virginia DEQ No Exposure Certification for Exclusion from VPDES Storm Water Permitting Form – This form provides information to provide notice's to DEQ that the facility does not require permit for its storm water discharges due to the existence of a condition of No Exposure. This form must be signed where indicated.

Please let me know as soon as possible if any changes are needed. The application forms should be signed in **blue ink** by Terry Tilley, Town Manager, at the places indicated and returned to us for preparation of bound copies. As we discussed, we will submit the required number of permit application copies to the DEQ on behalf of the Town of Stuart in advance of the January 10, 2013 deadline and will provide you with a complete record copy for your files to expedite the submittal process. Please review the enclosed draft cover letter to DEQ which contains the waiver requests that are being made to the DEQ on behalf of the Stuart WWTP for various portions of the application.

Very truly yours,

R. Lawrence Hoffman
Vice President



RLH/mlc
Enclosures

"Satisfying Our Clients with
Dedicated People Committed to Total Quality" | 1901 Innovation Drive, Suite 2100, Blacksburg, VA 24060
T 540.552.5548 • F 540.552.5577 • www.chacompanies.com

FORM
2A
NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to provide the information.
- E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. **Industrial Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
 - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 - 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastewater that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designed as an SIU by the control authority.
- G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1 Facility Information.

Facility Name Town of Stuart Wastewater Treatment Plant
Mailing Address P.O. Box 422
Stuart, VA 24171
Contact Person Andrew Dalton
Title Class II Wastewater Operator and Plant Manager
Telephone Number 276-694-4477 WWTP 276-694-3811 Town Hall
Facility Address 709 Commerce Street
(not P.O. Box) Stuart, VA 24171

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant Name _____
Mailing Address _____

Contact Person _____
Title _____
Telephone number _____

Is the applicant the owner or operator (or both) of the treatment works?

☒ owner ☒ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

☒ facility ☐ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES VA0022985 PSD _____
UIC _____ Other _____
RCRA _____ Other _____

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
<u>Town of Stuart</u>	<u>1,000 (est.)</u>	<u>Separate</u>	<u>Municipal</u>
_____	_____	_____	_____
_____	_____	_____	_____
Total population served	<u>1,000 (est.)</u>		

X No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

Transporter Name _____
Mailing Address _____

Contact Person _____
Title _____
Telephone Number _____

For each treatment works that receives this discharge, provide the following:

Transporter Name _____
Mailing Address _____

Contact Person _____
Title _____
Telephone Number _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes X No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method: _____
Is disposal through this method _____ continuous or _____ intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9 Description of Outfall.

- a. Outfall number 001
- b. Location Town of Stuart 24171
(City or town, if applicable) (Zip Code)
Patrick Virginia
(County) (State)
36°38'9" 80°15'20"
(Latitude) (Longitude)
- c. Distance from shore (if applicable) N/A ft.
- d. Depth below surface (if applicable) N/A ft.
- e. Average daily flow rate 0.24 mgd Oct. 2008- Aug. 2012 Average Flow
- f. Does this outfall have either an intermittent or periodic discharge? Yes X No (go to A.9.g)
- Number of times per year discharge occurs:
- Average duration of each discharge:
- Average flow per discharge: mgd
- Months in which discharge occurs:
- g. Is outfall equipped with a diffuser? Yes X No

A.10. Description of Receiving Waters

- a. Name of receiving water South Mayo River
- b. Name of watershed (if known) Roanoke River Basin
United States Soil Conservation Service 14-digit watershed code (if known):
- c. Name of State Management/River Basin (if known):
United States Geological Survey 8-digit hydrological cataloging unit code (if known): 3010103
- d. Critical low flow of receiving stream (if applicable):
acute NA cfs (1Q10) chronic NA cfs (7Q10)
- e. Total hardness of receiving stream at critical low flow (if applicable): NA mg/l of CaCO₃

A.11. Description of Treatment

- a. What levels of treatment are provided? Check all that apply.

☐ Primary ☒ Secondary
☐ Advanced ☐ Other. Describe: _____

- b. Indicate the following removal rates (as applicable)

Design BOD₅ removal or Design CBOD₅ removal >88 %
Design SS removal >88 %
Design P removal N/A %
Design N removal N/A %
Other N/A %

- c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Chlorination

If disinfection is by chlorination, is dechlorination used for this outfall? ☒ Yes ☐ No

- d. Does the treatment plant have post aeration? ☐ Yes ☒ No

A.12.

Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

With the exception of the E. coli data which was collected during the Fall 2012, all other data in Part A.12 is compiled from the facility's DMRs (October 2008 - August 2012).

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.0	s.u.			
pH (Maximum)	8.5	s.u.			
Flow Rate	0.89	mgd	0.24	mgd	Cont.
Temperature (Winter) (Jan-Mar)	19.6	°C	16.0	°C	1,429
Temperature (Summer) (July-Sept)	29.6	°C	27.1	°C	1,429

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
		Conc.	Units	Conc.	Units	Number of Samples		
BIOCHEMICAL OXYGEN Demand (Report one)	BOD-5	10.7	mg/L	2.3	mg/L	600	EPA 405.1	1 mg/L
	CBOD-5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FECAL COLIFORM (E.coli)		78.8	MPN/100 mls	29.7	MPN/100 mls	3	Mem. Filt.	1 MPN/100 mls
TOTAL SUSPENDED SOLIDS (TSS)		23.5	mg/L	8	mg/L	600	EPA 160.2	1 mg/L

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification)

Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or

B.1. infiltration.

30,000 gpd (est.)

Briefly explain any steps underway or planned to minimize inflow and infiltration.

Continued repairs and maintenance of I/I sources as they are identified

B.2. **Topographic Map.** Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.) **See attached Figure 1.**

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Well, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. **Process Flow Diagram or Schematic.** Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.
See attached Figure 2.

B.4. **Operation/Maintenance Performed by Contractor(s).**

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor?

 Yes X No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. **Scheduled Improvements and Schedules of Implementation.** Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

N/A

- b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

 Yes No

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Actual Completion
MM/DD/YYYY

- Begin construction
- End construction
- Begin discharge
- Attain operational level

— / — / —

— / — / —

— / — / —

Yes No

Describe briefly:

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001

[illegible]

END OF PART B.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER: Town of Stuart
Wastewater Treatment Plant; VA0022985

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

☒ Basic Application Information packet

Supplemental Application Information packet

☒ Part D (Expanded Effluent Testing Data)

☒ Part E (Toxicity Testing: Biomonitoring Data)

☒ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

☐ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Terry Tilley, Town Manager

Signature *Terry Tilley*

Telephone number 276-694-3811

Date signed 2-12-013

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:



SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: **001** (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS. Dissolved metals analyses were conducted for the Water Quality Criteria Monitoring requirements of the facility's VPDES Permit. As such, these analyses are reported instead of Total Recoverable Metals.											
ANTIMONY	< 5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA200.7	5 µg/L
ARSENIC	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA200.7	5 µg/L
BERYLLIUM	<1.0	µg/L	<2.2	g/D	<1.0	µg/L	<0.91	g/D	1	EPA200.7	1.0 µg/L
CADMIUM	<1.0	µg/L	<2.2	g/D	<1.0	µg/L	<0.91	g/D	1	EPA200.7	1.0 µg/L
CHROMIUM	<5	µg/L	<10.8	g/D	<5	µg/L	<4.5	g/D	1	EPA200.7	5 µg/L
COPPER	7.6	µg/L	15.5	g/D	7.6	µg/L	6.9	g/D	1	EPA200.7	5 µg/L
LEAD	<1.0	µg/L	<2.2	g/D	<1.0	µg/L	<0.91	g/D	1	EPA200.7	1.0 µg/L
MERCURY	<0.2	µg/L	<0.4	g/D	<0.2	µg/L	<0.2	g/D	1	EPA200.7	0.2 µg/L
NICKEL	<5.0	µg/L	<10.8	g/D	<5.0	µg/L	<4.5	g/D	1	EPA200.7	5.0 µg/L
SELENIUM	<10.0	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA200.7	10 µg/L
SILVER	<0.10	µg/L	<0.22	g/D	<0.10	µg/L	<0.09	g/D	1	EPA200.7	0.10 µg/L
THALLIUM	<10.0	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA200.7	10 µg/L
ZINC	84.6	µg/L	173	g/D	84.6	µg/L	76.9	g/D	1	EPA200.7	10 µg/L
CYANIDE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	M 4500-CN-	5 µg/L
TOTAL PHENOLIC COMPOUNDS	87	µg/L	188	g/D	87	µg/L	79	g/D	1	EPA 420.1	5 µg/L
HARDNESS (AS CaCO ₃)	71.7	mg/L	155	kg/D	71.7	mg/L	65	kg/D	1	EPA 200.7	0.6 mg/L

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	<100	µg/L	<217	g/D	<100	µg/L	<91	g/D	1	EPA 624	100 µg/L
ACRYLONITRILE	<100	µg/L	<217	g/D	<100	µg/L	<91	g/D	1	EPA 624	100 µg/L
BENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
BROMOFORM	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
CARBON TETRACHLORIDE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
CHLOROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
CHLORODIBROMO-METHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
CHLOROETHANE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 624	10 µg/L
2-CHLORO-ETHYL VINYL ETHER	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 624	10 µg/L
CHLOROFORM	12.2	µg/L	24.9	g/D	12.2	µg/L	11.1	g/D	1	EPA 624	10 µg/L
DICHLOROBROMO-METHANE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 624	10 µg/L
1,1-DICHLOROETHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
1,2-DICHLOROETHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
TRANS-1,2-DICHLORO-ETHYLENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
1,1-DICHLOROETHYLENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
1,2-DICHLOROPROPANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
1,3-DICHLORO-PROPYLENE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 624	10 µg/L
ETHYLBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
METHYL BROMIDE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 624	10 µg/L
METHYL CHLORIDE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 624	10 µg/L
METHYLENE CHLORIDE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
1,1,2,2-TETRACHLORO-ETHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
TETRACHLORO-ETHYLENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
TOLUENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L

Outfall number: **001** (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
1,1,2-TRICHLOROETHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
TRICHLORETHYLENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L
VINYL CHLORIDE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 624	5 µg/L

Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--

ACID-EXTRACTABLE COMPOUNDS

P-CHLORO-M-CRESOL	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
2-CHLOROPHENOL	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
2,4-DIMETHYLPHENOL	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L
4,6-DINITRO-O-CRESOL	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L
2,4-DINITROPHENOL	<50	µg/L	<108	g/D	<50	µg/L	<45	g/D	1	EPA 625	50 µg/L
2-NITROPHENOL	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
4-NITROPHENOL	<50	µg/L	<108	g/D	<50	µg/L	<45	g/D	1	EPA 625	50 µg/L
PENTACHLOROPHENOL	<25	µg/L	<54	g/D	<25	µg/L	<23	g/D	1	EPA 625	25 µg/L
PHENOL	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
2,4,6-TRICHLOROPHENOL	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L

Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--

BASE-NEUTRAL COMPOUNDS.

ACENAPHTHENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
ACENAPHTHYLENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
ANTHRACENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BENZIDINE	<50	µg/L	<108	g/D	<50	µg/L	<45	g/D	1	EPA 625	50 µg/L
BENZO(A)ANTHRACENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BENZO(A)PYRENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BENZO(GH)PERYLENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BENZO(K)FLUORANTHENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BIS (2-CHLOROETHOXY) METHANE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L
BIS (2-CHLOROETHYL)-ETHER	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BIS (2-CHLOROISO-PROPYL) ETHER	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BIS (2-ETHYLHEXYL) PHTHALATE	5.9	µg/L	12.7	g/D	5.9	µg/L	5.4	g/D	1	EPA 625	5 µg/L
4-BROMOPHENYL PHENYL ETHER	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
BUTYL BENZYL PHTHALATE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
2-CHLORONAPHTHALENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
4-CHLORPHENYL PHENYL ETHER	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
CHRYSENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
DI-N-BUTYL PHTHALATE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
DI-N-OCTYL PHTHALATE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
DIBENZO(A,H) ATHRACENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
1,2-DICHLOROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
1,3-DICHLOROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
1,4-DICHLOROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
3,3-DICHLOROBENZIDINE	<25	µg/L	<54	g/D	<25	µg/L	<23	g/D	1	EPA 625	25 µg/L
DIETHYL PHTHALATE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
DIMETHYL PHTHALATE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
2,4-DINITROTOLUENE	<50	µg/L	<108	g/D	<50	µg/L	<45	g/D	1	EPA 625	50 µg/L
2,6-DINITROTOLUENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
2-DIPHENYLHYDRAZINE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L

Outfall number: **001** (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
FLUORENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
HEXACHLOROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
HEXACHLOROBUTADIENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
HEXACHLOROCYCLO-PENTADIENE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L
HEXACHLOROETHANE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
INDENO(1,2,3-CD)PYRENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
ISOPHORONE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L
NAPHTHALENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
NITROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
N-NITROSODI-N-PROPYLAMINE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
N-NITROSODI-PHENYLAMINE	<10	µg/L	<21.6	g/D	<10	µg/L	<9.1	g/D	1	EPA 625	10 µg/L
PHENANTHRENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
PYRENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L
1,2,4-TRICHLOROBENZENE	<5	µg/L	<10.8	g/D	< 5	µg/L	<4.5	g/D	1	EPA 625	5 µg/L

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--

END OF PART D.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION**PART E. TOXICITY TESTING DATA**

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.

- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.

- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

8 chronic 8 acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

See Part E.4.

Test number: _____

Test number: _____

Test number: _____

a. Test information.

Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			

b. Give toxicity test methods followed.

Manual title			
Edition number and year of publication			
Page number(s)			

c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.

24-Hour composite			
Grab			

d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)

Before disinfection			
After disinfection			
After dechlorination			

Test number: _____ Test number: _____ Test number: _____

e. Describe the point in the treatment process at which the sample was collected.

Sample was collected:

f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.

Chronic toxicity			
Acute toxicity			

g. Provide the type of test performed.

Static			
Static-renewal			
Flow-through			

h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.

Laboratory water			
Receiving water			

i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.

Fresh water			
Salt Water			

j. Give the percentage effluent used for all concentrations in the test series

k. Parameters measured during the test. (State whether parameter meets test methods specifications)

pH			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			

l. Test Results

Acute:

Percent survival in 100% effluent	%	%	%
LC ₅₀			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Chronic

NOEC	%	%	%
IC ₂₅	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance

Is reference toxicant data available?		
Was reference toxicant test within acceptable bounds?		
What date was reference toxicant test run (MM/DD/YYYY)?		
Other (describe)		

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____ Yes ☒ No

If yes, describe:

E.4. Summary of Submitted Biomonitoring Text Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

See the attachment that shows a summary of reports that were previously submitted.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

See the attachment that shows a summary of results.

END OF PART E.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

Town of Stuart Wastewater Treatment Plant
VPDES Permit No. VA0022985
E.4. Summary of Submitted Biomonitoring Test Information
Outfall 001

Event	Testing Dates	Testing Performed	Toxicity End-Point (% Effluent)		
			NOEC	LC ₅₀	TU _c or TU _{Ac}
2008	9/18/08 – 9/20/08	48-Hour Acute Fathead Minnow		>100%	<1.0
	12/3/08 – 12/5/08	48-Hour Acute <i>Ceriodaphnia</i>		>100%	<1.0
	9/16/08 – 9/22/08	3-Brood Chronic <i>Ceriodaphnia</i>	100%		1.0
	12/2/08 – 12/9/08	7-Day Chronic Fathead Minnow	100%		1.0
2010	9/29/10-10/1/10	48-Hour Acute Fathead Minnow		>100%	<1.0
	9/29/10-10/1/10	48-Hour Acute <i>Ceriodaphnia</i>		>100%	<1.0
	9/28/10-10/4/10	3-Brood Chronic <i>Ceriodaphnia</i>	100%		1.0
	9/28/10-10/5/10	7-Day Fathead Minnow Chronic	41.2%		2.4
2011	9/21/11 – 9/23/11	48-Hour Acute Fathead Minnow	--	>100%	<1.0
	9/21/11 – 9/23/11	48-Hour Acute <i>Ceriodaphnia</i>	--	>100%	<1.0
	9/20/11 – 9/26/11	3-Brood Chronic <i>Ceriodaphnia</i>	100%	--	1.0
	9/20/11 – 9/27/11	7-Day Fathead Minnow Chronic	100%	--	1.0
2012	9/13/12 – 9/15/12	48-Hour Acute Fathead Minnow	--	>100%	<1.0
	9/13/12 – 9/15/12	48-Hour Acute <i>Ceriodaphnia</i>	--	>100%	<1.0
	9/12/12 – 9/18/12	3-Brood Chronic <i>Ceriodaphnia</i>	100%	--	1.0
	9/12/12 – 9/19/12	7-Day Fathead Minnow Chronic	100%	--	1.0

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

☒ Yes ☐ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: United Elastic/Narrowflex

Mailing Address: P.O. Box 519
Stuart, VA 24171

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Narrow elastic and nonelastic fabric manufacturer

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Elastic and nonelastic fabric

Raw material(s): Textiles

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

100,000 gpd (☐ continuous or ☒ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

2,000 (est.) gpd (☐ continuous or ☒ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ☒ Yes ☐ No

b. Categorical pretreatment standards ☐ Yes ☒ No

If subject to categorical pretreatment standards, which category and subcategory?

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☒ No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?

☐ Yes ☒ No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

☐ Truck ☐ Rail ☐ Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number

Amount

Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

☐ Yes (complete F.13 through F.15.) ☒ No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. Pollutants. List the hazardous constituents that are received (or are expected to received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

☐ Yes ☐ No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

☐ Continuous

☐ Intermittent

If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. **Pretreatment Program.** Does the treatment works have, or is it subject to, an approved pretreatment program?

X Yes No

F.2. **Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs).** Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1
b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. **Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Micrometric Systems, Inc.

Mailing Address: 2900 West Route 58
 Meadows of Dan, VA 24120

F.4. **Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Engraved Plates

F.5. **Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Engraved Plates

Raw material(s): Metal

F.6. **Flow Rate.**

a. **Process wastewater flow rate.** Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

1,000 gpd (continuous or X intermittent) **Maximum Permitted Flow**

b. **Non-process wastewater flow rate.** Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

0 gpd (X continuous or intermittent)

F.7. **Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local limits X Yes No
b. Categorical pretreatment standards X Yes No

If subject to categorical pretreatment standards, which category and subcategory?

Metal Finishing

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☒ No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?

☐ Yes ☒ No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

☐ Truck ☐ Rail ☐ Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number Amount Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

☐ Yes (complete F.13 through F.15.) ☒ No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. Pollutants. List the hazardous constituents that are received (or are expected to received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

☐ Yes ☐ No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

☐ Continuous ☐ Intermittent If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

VPDES PERMIT APPLICATION ADDENDUM - SUPPLEMENTARY INFORMATION

A. General Information

1. Entity to whom the permit is to be issued: Town of Stuart
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.
2. Classify the discharge as one of the following by checking the appropriate line:
☒ a. Existing discharge
☐ b. Proposed discharge
☐ c. Proposed expansion of an existing discharge
3. Year the current wastewater treatment facility began operation: 1975

B. Location

1. Is this facility located within city or town boundaries? ☒ Y ☐ N
2. (New Issuances & Modifications Only) What is the tax map parcel number for the land where this facility is located? 4811-82
3. For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities? 0
4. What is the total acreage of the property on which the treatment plant is located? 8.338 acres
5. Attach to the back of this application a location map(s) which may be traced from or is/are a production of a U.S. Geological Survey topographic quadrangle(s) or other appropriately scaled contour map(s). The location map(s) shall show the following: **See attached.**
 - a. Treatment Plant
 - b. Discharge point
 - c. Receiving waters
 - d. Boundaries of the property on which the treatment plant is located, or to be located.
 - e. Distance from the treatment plant to the nearest: (Indicate "not applicable" for any distance greater than 2000 feet)
 - i. Residence **~600-ft**
 - ii. Distribution line for potable water supply **~600-ft**
 - iii. Reservoir, well, or other source of water supply **NA**
 - iv. Recreational area **NA**
 - f. Distance from the discharge point to the nearest: (Indicate "not applicable" for any distance greater than 15 miles)
 - i. Downstream community **Patrick Springs**
 - ii. Upstream and downstream water intake points **NA**
 - iii. Shellfishing waters **NA**
 - iv. Wetlands area **NA**
 - v. Downstream impoundment **NA**
 - vi. Downstream recreational area **NA**

C. Discharge Description

1. Provide a brief description of the wastewater treatment scheme. Also, attach to the back of this application, a process flow diagram showing each process unit of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system.

Raw wastewater flows to the plant by gravity, passes through a mechanical bar screen and aerated grit collected, then to the influent pump station. Flow is pumped to two (2) aeration basins mixed with diffused air. Flow is split to three secondary clarifiers followed by chlorination then dechlorination and is discharged. Sludge is wasted to two (2) aerobic sludge digesters and is dewatered by a belt press.

2. What is the design average flow of this facility? 0.6 MGD
Industrial facilities: What is the max. 30-day avg. production level (include units)? _____
3. In addition to the above design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Y N

If "Yes", please specify the other flow tiers (in MGD) or production levels: _____
Please consider: Is your facility's design flow considerably greater than your current flow? Do you plan to expand operations during the next five years?

4. Nature of operations generating wastewater: Municipal Sewer System

____ % of flow from domestic connections/sources

Number of private residences to be served by the wastewater treatment facilities:

 0 1-49 X 50 or more

25 % of flow from non-domestic connections/sources

5. Mode of discharge: X Continuous Intermittent Seasonal
Describe frequency and duration of intermittent or seasonal discharges:

6. Identify the characteristics of the receiving stream at the point just above the facility's discharge point:

X Permanent stream, never dry

 Intermittent stream, usually flowing, sometimes dry

 Ephemeral stream, wet-weather flow, often dry

 Effluent-dependent stream, usually or always dry

 Lake or pond at or below the discharge point

 Other: _____

E. Anticipated Phasing Schedule for Plant Capacity - Proposed / Expanding Discharges

If this application is for a proposed or expanded discharge(s), complete the phasing schedule below beginning with the year in which construction completion is anticipated and progressing in increments of 5 years for 30 years thereafter.

Proposed Design Capacity: _____ MGD

Anticipated Date of Construction Completion: _____, _____
Month Year

Years after Completion	Projected Flow (MGD)
0	
5	
10	
15	N/A
20	
25	
30	

F. Interim Facilities

Are the wastewater treatment facilities interim? (designed for a useful life of less than 5 years)

_____ Yes ☒ No

If so, provide the estimated date to be discontinued (month, year) _____, and the name and location of the intended replacement facility.

Name / Location

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? ☒ Yes ☐ No

Will this facility derive a material from sewage sludge? ☐ Yes ☒ No

If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? ☒ Yes ☐ No

Will sewage sludge from this facility be applied to the land? ☒ Yes ☐ No

If you answered No to both questions above, skip Section C.

If you answered Yes to either, answer the following three questions:

a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
☐ Yes ☒ No

b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? ☐ Yes ☒ No

c. Will sewage sludge from this facility be sent to another facility for treatment or blending? ☐ Yes ☒ No

If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? ☐ Yes ☒ No

If Yes, complete Section D (Surface Disposal).

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.
 - a. Facility name: Town of Stuart Wastewater Treatment Plant
 - b. Contact person: Andrew Dalton
Title: Class II Wastewater Operator and Plant Manager
Phone: (276) 694-4477
 - c. Mailing address:
Street or P.O. Box: P.O. Box 422
City or Town: Stuart State: VA Zip: 24171
 - d. Facility location:
Street or Route #: 709 Commerce Street
County: Patrick County
City or Town: Stuart State: VA Zip: 24171
 - e. Is this facility a Class I sludge management facility? ☒ Yes ☐ No
 - f. Facility design flow rate: 0.6 mgd
 - g. Total population served: 1,000 +/-
 - h. Indicate the type of facility:
☒ Publicly owned treatment works (POTW)
☐ Privately owned treatment works
☐ Federally owned treatment works
☐ Blending or treatment operation
☐ Surface disposal site
☐ Other (describe): _____
2. Applicant Information. If the applicant is different from the above, provide the following:
 - a. Applicant name: Town of Stuart
 - b. Mailing address:
Street or P.O. Box: P.O. Box 422
City or Town: Stuart State: VA Zip: 24171
 - c. Contact person: Terry Tilley
Title: Town Manager

Phone: (276) 694-3811
 - d. Is the applicant the owner or operator (or both) of this facility?
☒ owner ☒ operator
 - e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
☒ facility ☐ applicant
3. Permit Information.
 - a. Facility's VPDES permit number (if applicable): VA0022985
 - b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:
Permit Number: _____ Type of Permit: _____

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? ☐ Yes ☒ No If yes, describe:

FACILITY NAME: Town of Stuart WWTP

VPDES PERMIT NUMBER: VA0022985

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:
- Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
 - Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.
6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.
7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? Yes ☒ No
If yes, provide the following for each contractor (attach additional pages if necessary).
Name: _____
Mailing address: _____
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
Phone: () _____
Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge: _____
If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).
8. Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	1	2009-2011	N/A	Varies
Cadmium	1.7	2009-2011	N/A	Varies
Chromium	343	11/2012	EPA 6010	2.6 mg/kg dry
Copper	612.3	2009-2011	N/A	Varies
Lead	41	2009-2011	N/A	Varies
Mercury	1.9	2009-2011	N/A	Varies
Molybdenum	5.5	2009-2011	N/A	Varies
Nickel	20.7	2009-2011	N/A	Varies
Selenium	4.3	2009-2011	N/A	Varies
Zinc	247.6	2009-2011	N/A	Varies

9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:
- ☒ Section A (General Information)
☐ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
☒ Section C (Land Application of Bulk Sewage Sludge)
☐ Section D (Surface Disposal)

FACILITY NAME: Town of Stuart WWTP

VPDES PERMIT NUMBER: VA0022985

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Terry Tilley, Town Manager

Signature *Terry Tilley* Date Signed 1-2-2013

Telephone number (276) 694-3811

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

FACILITY NAME: Town of Stuart WWTP

VPDES PERMIT NUMBER: VA0022985

**SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION
OF A MATERIAL DERIVED FROM SEWAGE SLUDGE**

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.

Total dry metric tons per 365-day period generated at your facility: 37.5 dry metric tons

2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary. N/A

- a. Facility name: _____
- b. Contact Person: _____
Title: _____
Phone () _____
- c. Mailing address: _____
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- d. Facility Address: _____
(not P.O. Box) _____
- e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons
- f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

3. Treatment Provided at Your Facility.

- a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
Class A ☒ Class B ☐ Neither or unknown
 - b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: Aerobic Digestion
 - c. Which vector attraction reduction option is met for the sewage sludge at your facility?
☒ Option 1 (Minimum 38 percent reduction in volatile solids)
☐ Option 2 (Anaerobic process, with bench-scale demonstration)
☐ Option 3 (Aerobic process, with bench-scale demonstration)
☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
☐ Option 5 (Aerobic processes plus raised temperature)
☐ Option 6 (Raise pH to 12 and retain at 11.5)
☐ Option 7 (75 percent solids with no unstabilized solids)
☐ Option 8 (90 percent solids with unstabilized solids)
☐ None or unknown
 - d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: Aerobic Digestion
 - e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: Digested sludge is dewatered using a belt filter press, temporarily stored in a holding building, then disposed of in a permitted municipal landfill. As a backup option, the Town has a land application site.
4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).
(If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
- a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land: _____ dry metric tons
 - b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?

FACILITY NAME: Town of Stuart WWTP

Yes	No
-----	----

VPDES PERMIT NUMBER: VA0022985

5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)

- a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: _____ dry metric tons
- b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending.

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

- [illegible]

- f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? ☐ Yes ☐ No
- Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
- ☐ Class A ☐ Class B ☐ Neither or unknown
- Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

- g. Does the receiving facility provide additional **treatment to reduce** vector attraction characteristics of the sewage sludge? Yes No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

- ☐ Option 1 (Minimum 38 percent reduction in volatile solids)
- ☐ Option 2 (Anaerobic process, with bench-scale demonstration)
- ☐ Option 3 (Aerobic process, with bench-scale demonstration)
- ☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- ☐ Option 5 (Aerobic processes plus raised temperature)
- ☐ Option 6 (Raise pH to 12 and retain at 11.5)
- ☐ Option 7 (75 percent solids with no unstabilized solids)
- ☐ Option 8 (90 percent solids with unstabilized solids)
- ☐ None known

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge:

- h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?

If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

- i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility

FACILITY NAME: Town of Stuart WWT

VPDES PERMIT NUMBER: VA0022985

to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

- j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? ☐ Yes ☐ No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.
- k Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? ☐ Yes ☐ No. If no, provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. _____

7. Land Application of Bulk Sewage Sludge.

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

- a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites: 37.5 dry metric tons
- b. Do you identify all land application sites in Section C of this application? ☒ Yes ☐ No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).
- c. Are any land application sites located in States other than Virginia? ☐ Yes ☒ No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

- d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV). N/A

8. Surface Disposal.

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

- a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons
- b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
☐ Yes ☐ No
If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.
- c. Site name or number: _____
- d. Contact person: _____
Title: _____
Phone: () _____
Contact is: ☐ Site Owner ☐ Site operator
- e. Mailing address.
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons
- g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

<u>Permit Number:</u>	<u>Type of Permit:</u>
_____	_____
_____	_____

9. Incineration.

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

FACILITY NAME: Town of Stuart WWTP

VPDES PERMIT NUMBER: VA0022985

- a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: _____ dry metric tons
- b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
 Yes No
If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.
- c. Incinerator name or number: _____
- d. Contact person: _____
Title: _____
Phone: () _____
Contact is: Incinerator Owner Incinerator Operator
- e. Mailing address.
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons
- g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:
Permit Number: _____ Type of Permit: _____

10. Disposal in a Municipal Solid Waste Landfill.

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

- a. Landfill name: Republic Landfill (Upper Piedmont Regional)
- b. Contact person: Kathy Riggs
Title: _____
Phone: (366) 364-3699
Contact is: Landfill Owner X Landfill Operator
- c. Mailing address.
Street or P.O. Box: 9650 Oxford Road
City or Town: Rougemont State: NC Zip: 27572
- d. Landfill location.
Street or Route #: 9650 Oxford Road
County: Person
City or Town: Rougemont State: NC Zip: 27572
- e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:
7.47 dry metric tons
- f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:
Permit Number: _____ Type of Permit: _____
73-04 MSWLF
- g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
X Yes No
- h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? X Yes No
- i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? X Yes No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. Sludge to be transported to the landfill only during normal hours of operation; 7:00am-4:30pm M-F and 7:00am-12:00pm Saturday. See attached map for haul route.

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:

The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or

The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or

You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).

Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site.

a. Site name or number: K.P. Hill Dairy, Inc.

b. Site location (Complete i and ii)

i. Street or Route#: Route 681

County: Patrick

City or Town: Stuart State: VA Zip: 24171

ii. Latitude: 36-38-04 Longitude: 80-15-17

Method of latitude/longitude determination

☒ USGS map ☐ Filed survey ☐ Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location. Maps of this site were included in the previous permit application.

2. Owner Information.

a. Are you the owner of this land application site? ☐ Yes ☒ No

b. If no, provide the following information about the owner:

Name: Wayne M. Kirkpatrick

Street or P.O. Box: Route 5, Box 1525

City or Town: Stuart State: VA Zip: 24171

Phone: (276) 694-4449

3. Applier Information:

a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? ☒ Yes ☐ No

b. If no, provide the following information for the person who applies the sewage sludge:

Name: _____

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

Phone: () _____

c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:

Permit Number: VA0022985

Type of Permit: VPDES

4. Site Type. Identify the type of land application site from among the following:

☒ Agricultural land ☐ Reclamation site ☐ Forest

☐ Public contact site ☐ Other. Describe _____

5. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?

☐ Yes ☒ No If yes, answer a and b.

a. Indicate which vector attraction reduction option is met:

☐ Option 9 (Injection below land surface)

☐ Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

FACILITY NAME: Town of Stuart WWTP

VPDES PERMIT NUMBER: VA0022985

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

- a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? ☐ Yes ☐ No
If no, sewage sludge subject to the CPLRs may not be applied to this site.
If yes, provide the following information:
Permitting authority: _____
Contact person: _____
Phone: () _____
- b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? ☐ Yes ☐ No If no, skip the rest of Question 6. If yes, answer questions c - e.
- c. Site size, in hectares: _____ (one hectare = 2.471 acres)
- d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.
Facility name: _____
Facility contact: _____
Title: _____
Phone: () _____
Mailing address: _____
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	<u>Cumulative loading</u>	<u>Allotment remaining</u>
Arsenic	_____	_____
Cadmium	_____	_____
Copper	_____	_____
Lead	_____	_____
Mercury	_____	_____
Nickel	_____	_____
Selenium	_____	_____
Zinc	_____	_____

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. **Sludge Characterization.** Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)	_____	
pH (S. U.)	_____	
Percent Solids (%)	_____	
Ammonium Nitrogen (mg/kg)	_____	
Nitrate Nitrogen (mg/kg)	_____	The sludge analysis has been previously submitted to DEQ.
Total Kjeldahl Nitrogen (mg/kg)	_____	Additional analysis for chromium was completed for this
Total Phosphorus (mg/kg)	_____	application and the results are attached.
Total Potassium (mg/kg)	_____	
Alkalinity as CaCO ₃ (mg/kg)	_____	

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent CaCO_3 .

8. Storage Requirements.

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

- a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
 - 1) Water wells, abandoned or operating
 - 2) Surface waters
 - 3) Springs
 - 4) Public water supply(s) See Attachment #C8.
 - 5) Sinkholes
 - 6) Underground and/or surface mines
 - 7) Mine pool (or other) surface water discharge points
 - 8) Mining spoil piles and mine dumps
 - 9) Quarry(s)
 - 10) Sand and gravel pits
 - 11) Gas and oil wells
 - 12) Diversion ditch(s)
 - 13) Agricultural drainage ditch(s)
 - 14) Occupied dwellings, including industrial and commercial establishments
 - 15) Landfills or dumps
 - 16) Other unlined impoundments
 - 17) Septic tanks and drainfields
 - 18) Injection wells
 - 19) Rock outcrops
- b. A topographic map of sufficient detail to clearly show the following information:
 - 1) Maximum and minimum percent slopes
 - 2) Depressions on the site that may collect water
 - 3) Drainageways that may attribute to rainfall run-on to or runoff from this site
 - 4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding
- c. Data and specifications for the storage facility lining material.
- d. Plan and cross-sectional views of the storage facility.
- e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. Ground Water Monitoring.

Are any ground water monitoring data available for this land application site? Yes X No

If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

ITEM #C8 ATTACHMENT

Sludge storage at the Town of Stuart's wastewater treatment plant is provided by a sludge storage building and sludge drying beds, both of which are located on the plant site.

Dewatered sludge is primarily stored in the sludge storage building. The storage building is a pre-engineered metal building with dimensions 56' long X 30' wide. The building has a concrete floor and concrete walls 7'-4" high on three sides. The building roof is 16' above the floor, allowing sludge to be stored to a greater depth. The floor is equipped with a drain line which collects any seepage from the sludge and conveys it back to the plant influent for treatment. Using a 7'-0" sludge depth and 2:1 end slope, the building estimated storage volume is $(42')(7')(30') + (0.5)(14')(7')(30') = 10,290\text{ft}^3$.

In the event that the sludge storage building is full and additional storage room is needed, the plant's sludge drying beds are used. The plant has three (3) 45' X 20' uncovered drying beds. Dewatered sludge could be heaped onto these beds for storage. The drying beds have an underdrain system to collect any seepage or runoff from the sludge. Using a uniform 3'-0" sludge depth, the drying beds' estimated storage volume is $(3)(45')(20')(3') = 8,100\text{ft}^3$.

The total estimated combined storage volume of the sludge building and drying beds is about 18,390 ft^3 . The sludge storage building and drying beds are located above the 100-year flood elevation.

Based upon plant records for 2011, the WWTP had a total sludge production of 37.5 dry tons with an average daily plant flow of 0.23 MGD. At permitted capacity of 0.6 MGD, the estimated annual sludge production would be about 97.8 dry tons. Using an estimated specific gravity of 1.25 for the sludge, 18% dewatered solids, the total annual required storage volume could be estimated as $(97.8 \text{ ton})(2,000\text{#/ton}) / [(0.18)(8.34 \text{ lb/MG})(1.25 \text{ S.G.})(7.48 \text{ gal/cf})] = 13,931\text{ft}^3$. This equates to about 1,161 ft^3 of sludge produced per month, thus the plant would have about $(18,390/1,161) = 16$ months of storage volume.

- a. Provide a general location map for each county which clearly indicates the location of all the land application sites.
- b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.
- c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service

Ecological Services

6669 Short Lane

Gloucester, VA 23061

TEL: (804) 693-6694

See previously submitted Biosolids Management Plan.

Provide a copy of the notification letter with this application form.

- d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.
 - 1) Soil symbol
 - 2) Soil series, textural phase and slope range
 - 3) Depth to seasonal high water table
 - 4) Depth to bedrock
 - 5) Estimated soil productivity group (for the proposed crop rotation)

See previously submitted Biosolids Management Plan.

Item e - h are required for sites receiving frequent application of sewage sludge

- e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:
 - 1). Soil symbol
 - 2). Soil series, textural phase and slope range
 - 3). Depth to seasonal high water table
 - 4). Depth to bedrock
 - 5). Estimated soil productivity group (for the proposed crop rotation)

Not Applicable

- f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)	_____	
Soil pH (std. units)	_____	
Cation Exchange Capacity (meq/100g)	_____	
Total Nitrogen (ppm)	_____	
Organic Nitrogen (ppm)	_____	
Ammonia Nitrogen (ppm)	_____	
Nitrate Nitrogen (ppm)	_____	
Available Phosphorus (ppm)	_____	
Exchangeable Potassium (mg/100g)	_____	Not Applicable
Exchangeable Sodium (mg/100g)	_____	
Exchangeable Calcium (mg/100g)	_____	
Exchangeable Magnesium (mg/100g)	_____	
Arsenic (ppm)	_____	
Cadmium (ppm)	_____	
Copper (ppm)	_____	
Lead (ppm)	_____	
Mercury (ppm)	_____	
Molybdenum (ppm)	_____	
Nickel (ppm)	_____	
Selenium (ppm)	_____	
Zinc (ppm)	_____	
Manganese (ppm)	_____	
Particle Size Analysis or USDA Textural Estimate (%)	_____	

- g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.
Not Applicable
- h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.
Not Applicable

SEWAGE SLUDGE APPLICATION AGREEMENT

See previously submitted agreement forms.

This sewage sludge application agreement is made on this date _____ between _____, referred to here as "landowner", and _____, referred to here as the "Permittee".

Landowner is the owner of agricultural land shown on the map attached as Exhibit A and designated there as _____ ("landowner's land"). Permittee agrees to apply and landowner agrees to comply with certain permit requirements following application of sewage sludge on landowner's land in amounts and in a manner authorized by VPDES permit number _____ which is held by the Permittee.

Landowner acknowledges that the appropriate application of sewage sludge will be beneficial in providing fertilizer and soil conditioning to the property. Moreover, landowner acknowledges having been expressly advised that, in order to protect public health, the following site restrictions must be adhered to when sewage sludge receives Class B treatment for pathogen reduction:

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge;
2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil;
3. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil;
4. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;
5. Animals shall not be grazed on the land for 30 days after application of sewage sludge;
6. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Water Control Board;
7. Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge;
8. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
9. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for three years following the application of sewage sludge borne cadmium equal to or exceeding 0.5 kilograms/hectare (0.45 pounds/acre).

Permittee agrees to notify landowner or landowner's designee of the proposed schedule for sewage sludge application and specifically prior to any particular application to landowner's land. This agreement may be terminated by either party upon written notice to the address specified below.

Landowner:

Signature

Mailing Address

Permittee:

Signature

Mailing Address

SECTION D. SURFACE DISPOSAL

Complete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.

1. Information on Active Sewage Sludge Units. Not Applicable

- a. Unit name or number: _____
- b. Unit location
 - i. Street or Route#: _____
County: _____
City or Town: _____ State: _____ Zip: _____
 - ii. Latitude: _____ Longitude: _____
Method of latitude/longitude determination
_____ USGS map _____ Filed survey _____ Other _____
- c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
- d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: _____ dry metric tons.
- e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: _____ dry metric tons.
- f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of 1×10^{-7} cm/sec? ☐ Yes ☐ No If yes, describe the liner or attach a description.

- g. Does the active sewage sludge unit have a leachate collection system? ☐ Yes ☐ No
If yes, describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:

- h. If you answered no to either f or g, answer the following:
Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? ☐ Yes ☐ No If yes, provide the actual distance in meters: _____
- i. Remaining capacity of active sewage sludge unit, in dry metric tons: _____ dry metric tons
Anticipated closure date for active sewage sludge unit, if known: _____ (MM/DD/YYYY)
Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

2. Sewage Sludge from Other Facilities.

Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? ☐ Yes ☐ No

If yes, provide the following information for each such facility, attach additional sheets as necessary.

- a. Facility name: _____
- b. Facility contact: _____
Title: _____
Phone: () _____
- c. Mailing address.
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:
Permit Number: _____ Type of Permit: _____

- e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?
☐ Class A ☐ Class B ☐ Neither or unknown
- f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge: _____

- g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?
- ☐ Option 1 (Minimum 38 percent reduction in volatile solids)
 - ☐ Option 2 (Anaerobic process, with bench-scale demonstration)
 - ☐ Option 3 (Aerobic process, with bench-scale demonstration)
 - ☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
 - ☐ Option 5 (Aerobic processes plus raised temperature)
 - ☐ Option 6 (Raise pH to 12 and retain at 11.5)
 - ☐ Option 7 (75 percent solids with no unstabilized solids)
 - ☐ Option 8 (90 percent solids with unstabilized solids)
 - ☐ None or unknown
- h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge: _____
- i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above: _____

3. Vector Attraction Reduction.

- a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?
- ☐ Option 9 (Injection below land surface)
 - ☐ Option 10 (Incorporation into soil within 6 hours)
 - ☐ Option 11 (Covering active sewage sludge unit daily)
- b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge: _____

4. Ground Water Monitoring.

- a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? ☐ Yes ☐ No
If yes, provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.
- b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
☐ Yes ☐ No If yes, submit a copy of the ground water monitoring program with this application.
- c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? ☐ Yes ☐ No
If yes, submit a copy of the certification with this application.

5. Site-Specific Limits.

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
☐ Yes ☐ No If yes, submit information to support the request for site-specific pollutant limits with this application.



**VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM
SECTION C: LAND APPLICATION OF BULK BIOSOLIDS**

LAND APPLICATION AGREEMENT - BIOSOLIDS

A. This land application agreement is made on 02-01-2013 between K.P. Hill Dairy, Inc. referred to here as "Landowner", and Town of Stuart, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:

The Landowner is the owner of record of the real property located in Stuart, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids			
<u>Tax Parcel ID</u>	<u>Tax Parcel ID</u>	<u>Tax Parcel ID</u>	<u>Tax Parcel ID</u>
4811-86	4811-14-15		
4811-86-I			
4811-86-H			
4811-86-G			
4811-87			

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:

- ☐ The Landowner is the sole owner of the properties identified herein.
☐ The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply biosolids on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of biosolids for the purpose of determining compliance with regulatory requirements applicable to such application.

K.P. Hill Dairy, Inc. by	K.P. Hill Dairy, Inc. by	975 Commerce Street
Wayne M. Kirkpatrick	Wayne M. Kirkpatrick	Stuart, VA 24171
Landowner - Printed Name, Title	Signature	Mailing Address

Permittee:

Town of Stuart, the Permittee, agrees to apply biosolids on the Landowner's land in the manner authorized by the VPDES Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

☐ I reviewed the documents assigning signatory authority to the person signing for landowner above. I will make a copy of this document available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

Terry Tilley

VA 24171

Permittee - Authorized Representative
Printed Name


Signature

P.O. Box 422, Stuart,

Mailing Address

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM
SECTION C: LAND APPLICATION OF BULK BIOSOLIDS

LAND APPLICATION AGREEMENT - BIOSOLIDS

Permittee: Town of Stuart County or City: Patrick County
Landowner: K.P. Hill Dairy, Inc.

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
 - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
 - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
 - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
 - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
 - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
 - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
 - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
 - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

 - a. Meat producing livestock shall not be grazed for 30 days,
 - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
 - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

K. P. Hill Dairy, Inc. by
Walter M. K. [Signature]
Landowner's Signature

2-1-13
Date



February 8, 2013

Ms. Margaret Byrne
Fish and Wildlife Service
Ecological Services
6669 Short Lane
Gloucester, VA 23061

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

**Re: Town of Stuart Wastewater Treatment Plant (WWTP) Sludge Land Application Sites;
CHA Project No.: 24794**

Dear Ms. Byrne:

The Town of Stuart is renewing the sludge management plan for the Town of Stuart Wastewater Treatment Plant (WWTP). As part of the land application site permit renewal process, the WWTP was required to notify the U.S. Fish and Wildlife Service (USFWS) to ensure that land application of sludge will not impact federally listed threatened or endangered species. On behalf of the Town of Stuart, I have enclosed a map of the proposed application site in Patrick County, VA. The WWTP uses a municipal landfill as its primary method of sludge disposal; however, the WWTP applied sludge to this site in the past and may return to land application in the future. The sludge is considered non-toxic and will be applied to the proposed sites in accordance with all current regulatory requirements.

Please do not hesitate to call me at (540) 552-5548 if you have any questions or need any additional information.

Sincerely,

A handwritten signature in blue ink that reads "R. Lawrence Hoffman". The signature is fluid and cursive, with the first name "R." and last name "Hoffman" clearly visible.

R. Lawrence Hoffman
Vice President

RLH/egl
Enclosure

cc: Terry Tilly, Town Manager, Town of Stuart (w/enclosure)
Andrew Dalton, Plant Manager, Town of Stuart Wastewater Treatment Plant (w/enclosure)



1901 Innovation Drive, Suite 2100 • Blacksburg, VA 24060
Main: (540)552-4548 • www.chacompanies.com

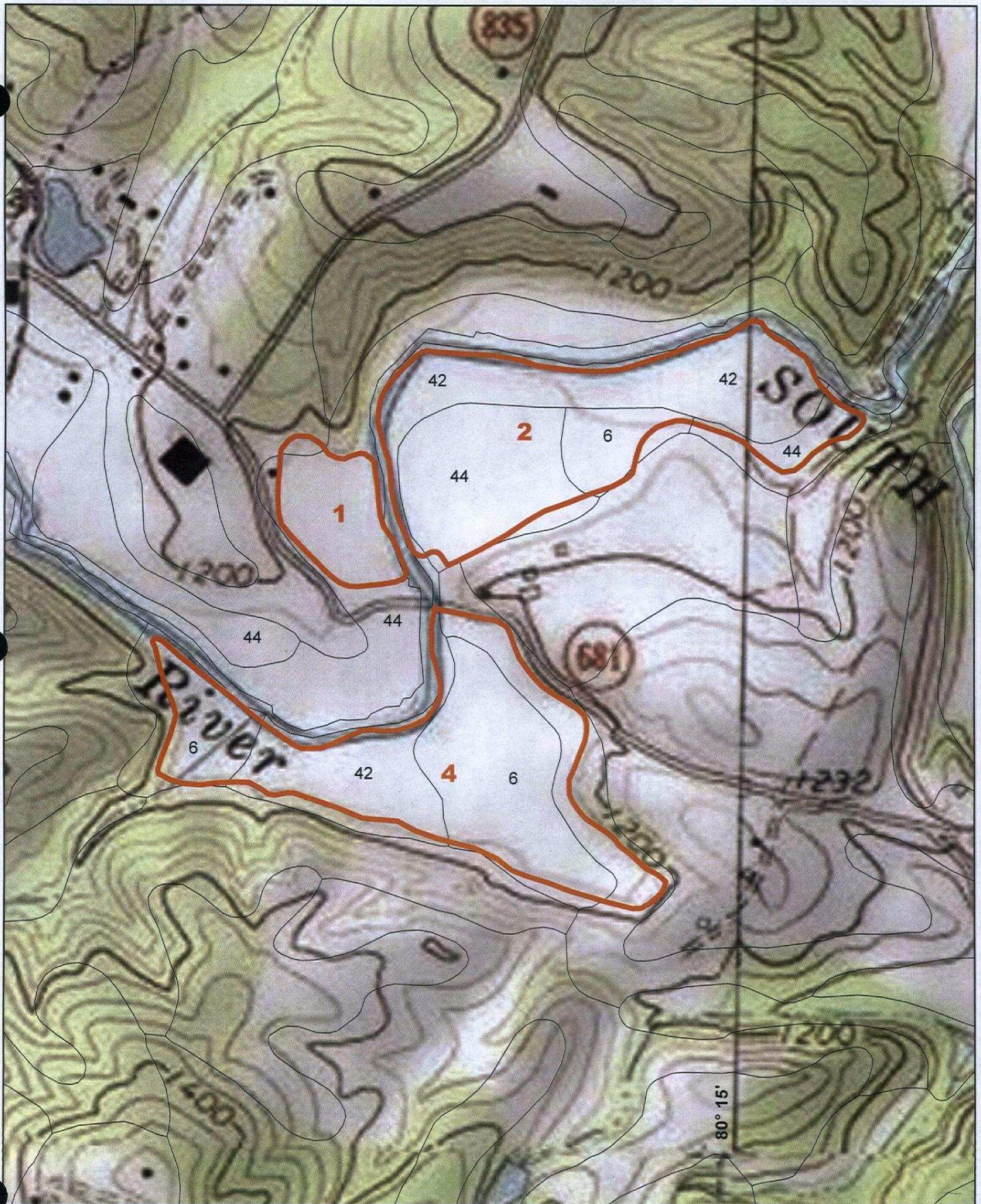
**VPDES Permit Application
Land Application Site Map
Town of Stuart Wastewater Treatment Plant
Figure 1**



Project No.
24794

Date : February 2013

0 600
Ft



1901 Innovation Drive, Suite 2100 - Blacksburg, VA 24060
Main: (540)552-5548 • www.chacompanies.com

**VPDES Permit Application
Land Application Site Soil Survey Map
Town of Stuart Wastewater Treatment Plant
Figure 2**



Project No.
24794

Date : February 2013

0 600
Ft

VIRGINIA COOPERATIVE EXTENSION SERVICE

VIRGINIA
TECH

VIRGINIA
STATE

SOILS INVENTORY AND EVALUATION

STUART SEWAGE SLUDGE DISPOSAL SITES

RECOUNTED

KP HILL SITE

14 Biltmore Sandy Loam, 0 to 4 percent slopes. These very deep well to moderately well drained soils are formed from recent alluvial materials.

Typical profile:

Surface layer:

0 to 10 inches, dark yellowish brown sandy loam.

Subsoil:

10 to 50 inches, yellowish brown loamy sand.

Substratum:

50 to 60 inches, light yellowish brown loamy sand.

These soils are suited for sludge application if incorporated into the soil within 48 hours.

42 Codorus Loam, 0 to 4 percent slopes. These very deep, moderately well drained soil are formed from recent alluvial materials.

Typical profile:

Surface layer:

0 to 9 inches, dark brown loam.

Subsoil:

9 to 18 inches, dark brown loam.

18 to 30 inches, dark yellowish brown loam, with light grayish brown mottles.

Substratum:

30 to 60 inches, light yellowish brown loam, with brownish gray mottles.

These soils are suited for sludge applications if incorporated in the soil within 48 hours.

6 Hatboro Loam, 0 to 3 percent slopes. These very deep poorly drained soils are formed from recent alluvial materials.

RECEIVED

MAY 20 2005

DEU WORO

Typical profile:

Surface layer:

0 to 9 inches, dark grayish brown loam, with yellowish brown mottles.

Subsoil:

9 to 44 inches, grayish brown loam, with yellowish brown mottles.

Substratum:

44 to 60 inches, light brownish gray sandy clay loam, with yellowish brown mottles.

These soils are not suited for sludge application because of seasonal high water tables, and flooding.

44 Suches loam, 0 to 4 percent slopes. These very deep moderately well drained soils are formed from recent alluvial materials.

Typical profile:

Surface layer:

0 to 9 inches, dark brown loam.

Subsoil:

9 to 31 inches, yellowish brown sandy clay loam, with pale brown mottles.

31 to 42 inches, light brownish gray sandy clay loam, with yellowish brown mottles.

Substratum:

42 to 60 inches, light gray and light brownish gray loamy sand.

This soil is suited sludge application.

COOPER FARM SITE:

13 Biltmore Sandy Loam, 0 to 4 percent slopes. These very deep well to moderately drained soils are formed from recent alluvial materials.

Typical profile:

Surface layer:

0 to 10 inches, dark yellowish brown sandy loam.

Subsoil:

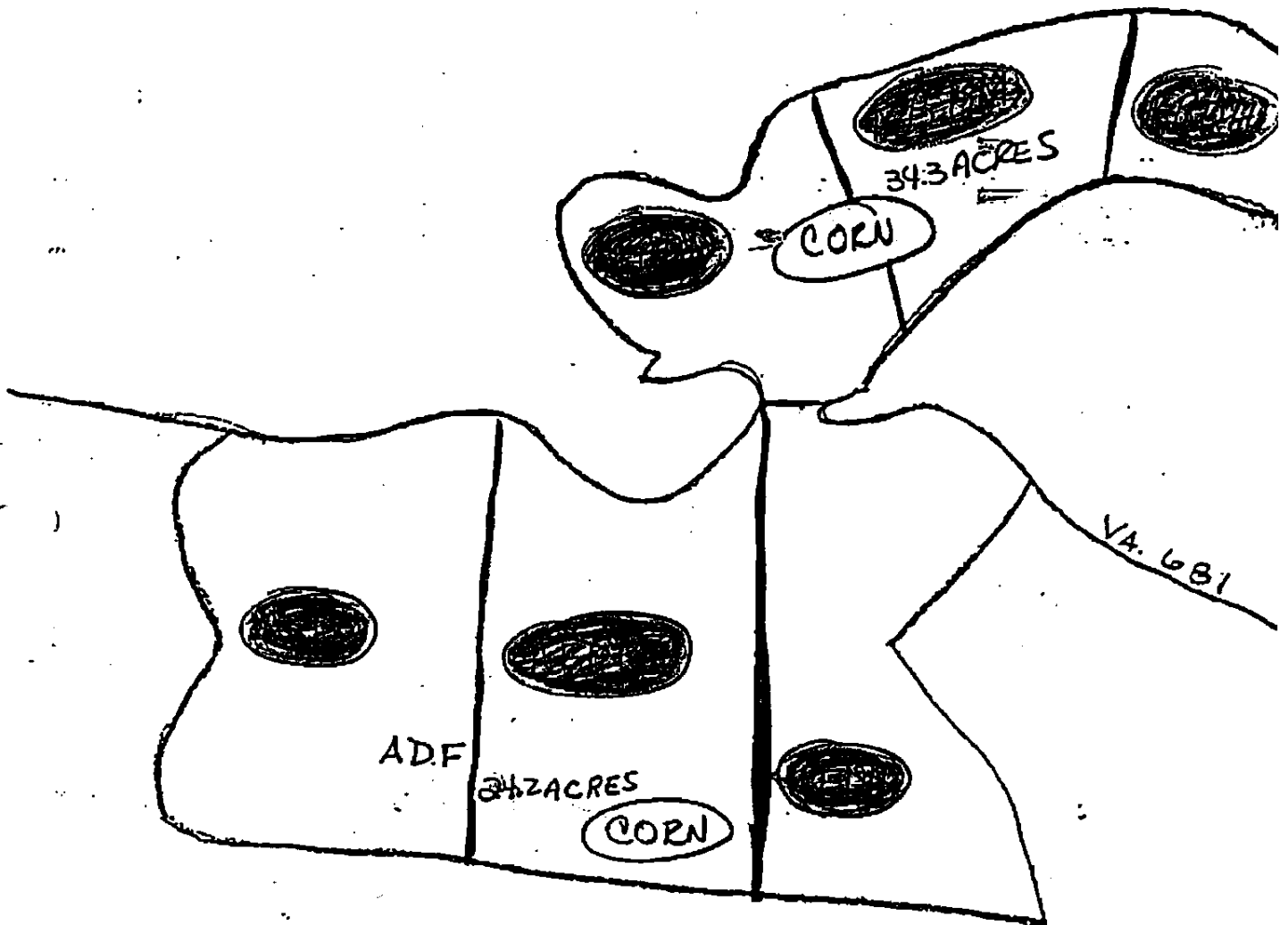
10 to 50 inches, yellowish brown loamy sand.

ITEM #12B

RECEIVED

20 APR

1968



K.P. HILL DAIRY, INC.
APPLICATION SITES
BY FIELD MAPS

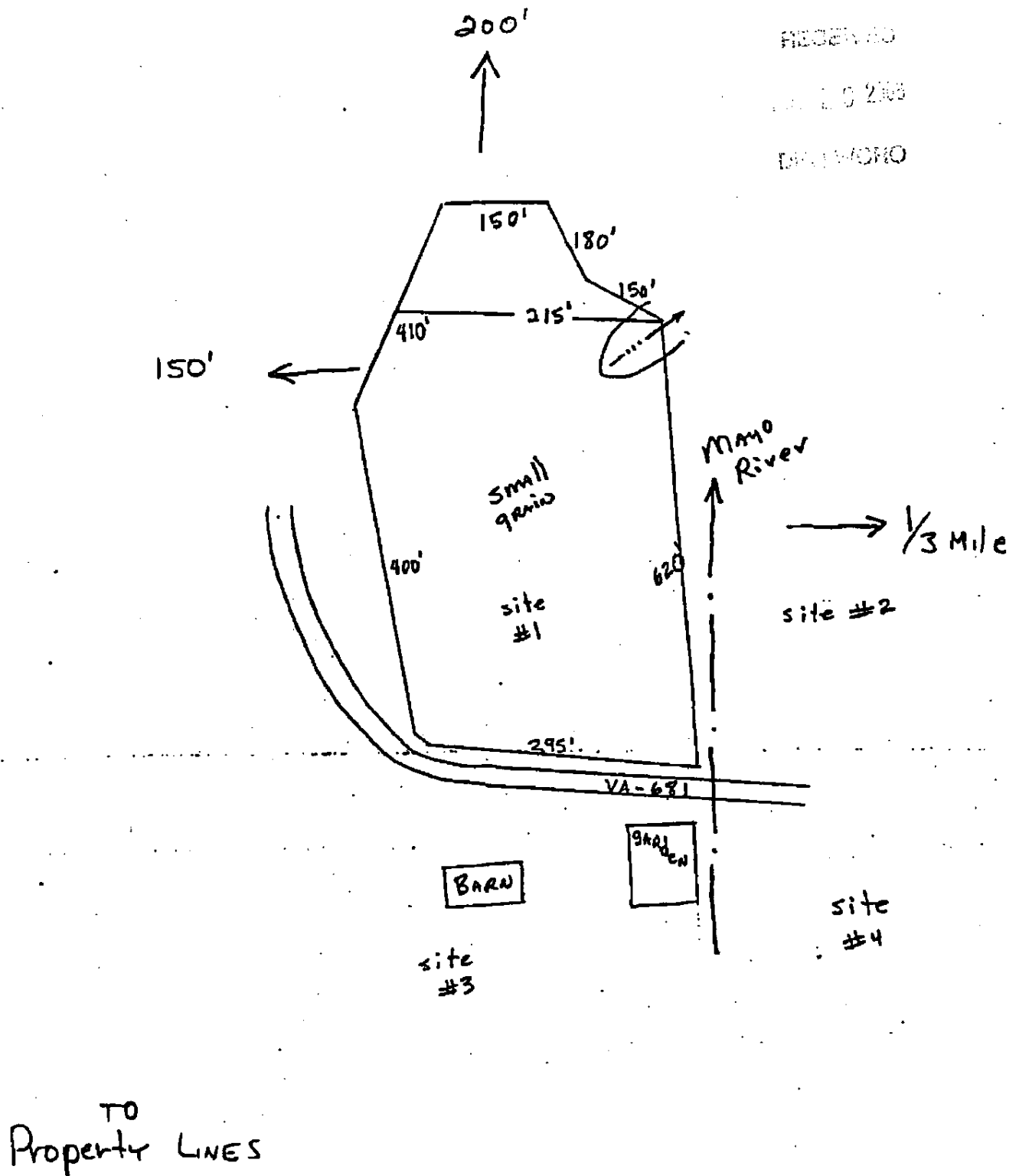
 = SOIL SAMPLE
ID

ITEM #120

RECEIVED

NOV 20 2008

DAVID MOHO



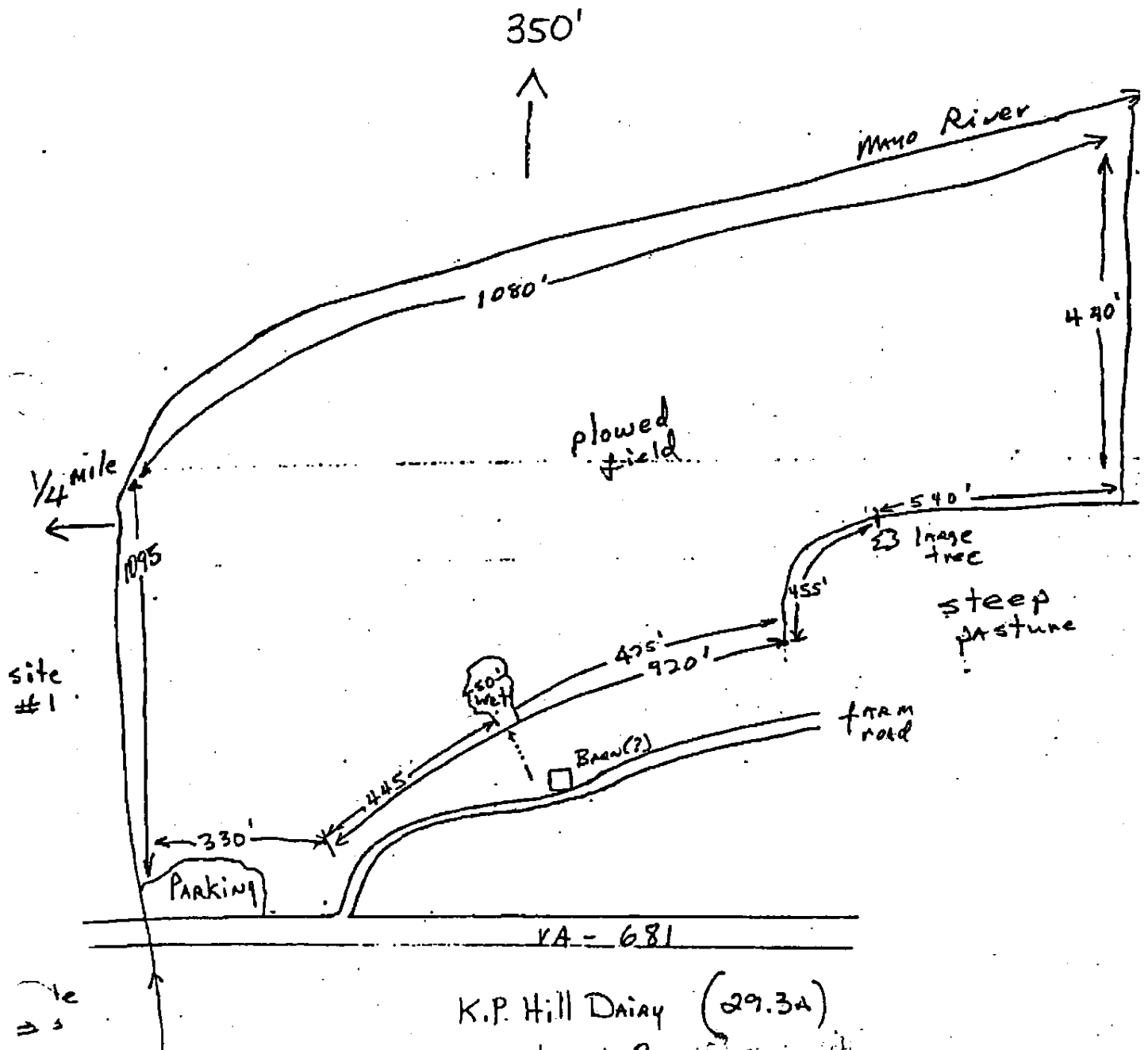
K.P. Hill Dairy (S.O.A.)
Site #1

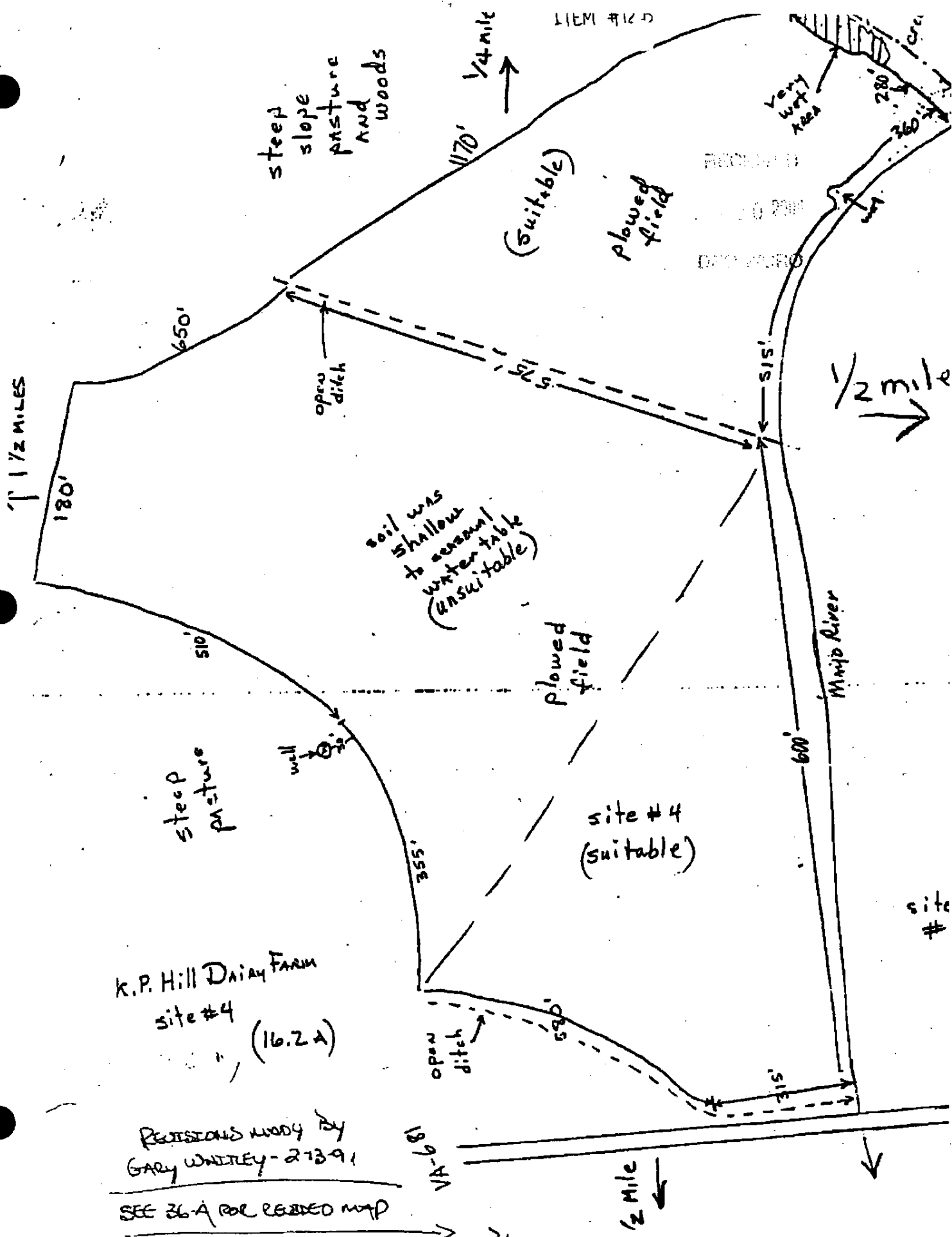
ITEM # 12 D

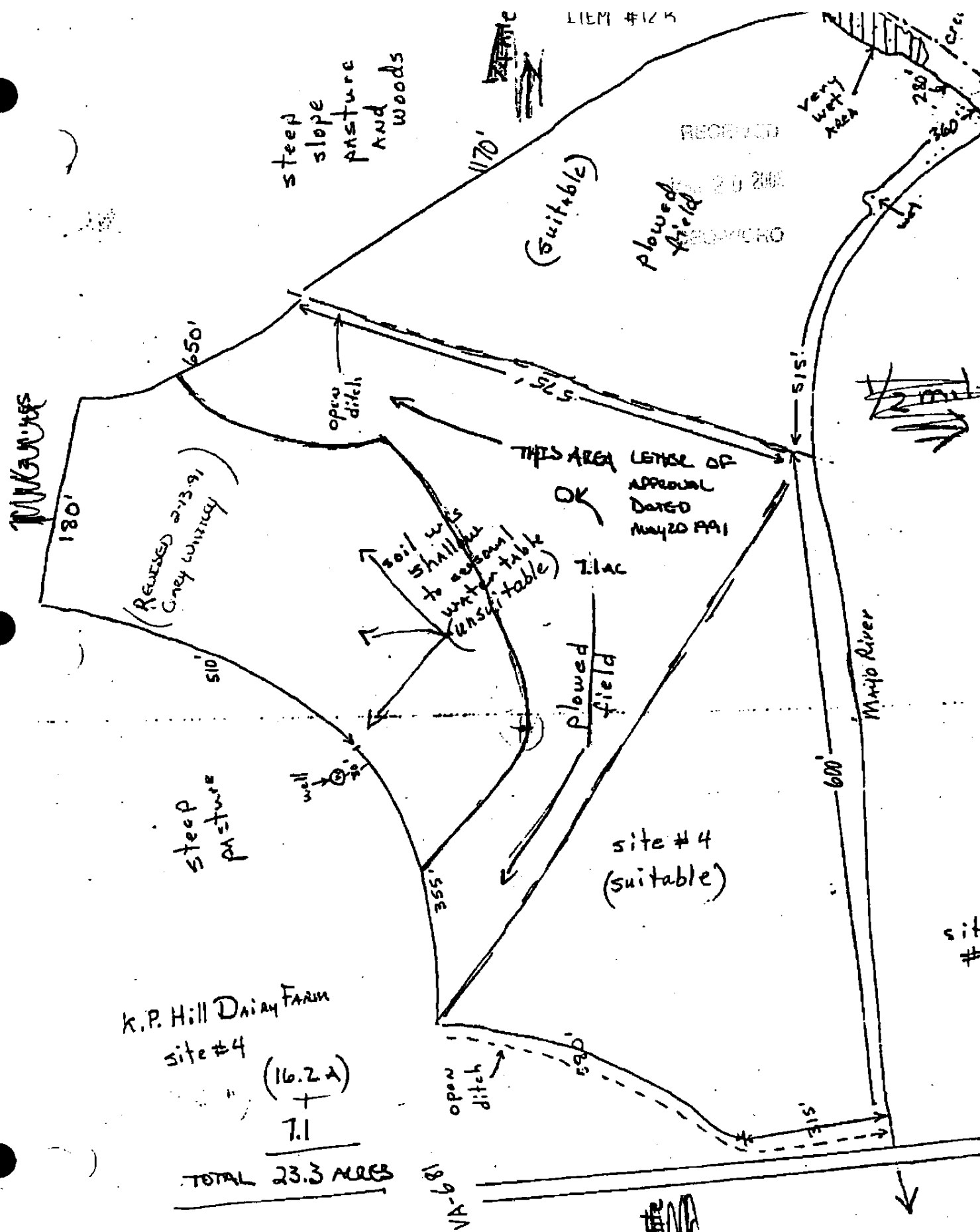
RECEIVED

NOV 20 1961

DUP MICRO







TOWN OF STUART VPDES PERMIT APPLICATION
 SLUDGE PERMIT APPLICATION - PART C.9 ATTACHMENT
 Revised May 9, 2008

Filename: STUARTWWTPSLUDGE.xls
 Sheetname: 2008 (2)

RECEIVED

MAY 13 2008

DEQ-WGRO

PLANT/SITE SPECIFIC VALUES

MAX ANNUAL SLUDGE PRODUCTION, dry tons	150.96
APPLICATION FREQUENCY, years	3
AGRONOMIC APPLICATION RATES, lbs/AC	
<u>CROP</u>	<u>PAN</u>
CORN	180
HAY	120

LAND APPLICATION AREA DESCRIPTIONS

<u>SITE</u>	<u>CROP</u>	<u>ACRES</u>
KP HILL-1	CORN	5.0
KP HILL-2	CORN	29.3
KP HILL-3	CORN	8
KP HILL-4	CORN	<u>23.3</u>
Total Land Application Area		65.6

SLUDGE ANALYSIS RESULTS - AVERAGE OF THREE SAMPLES

<u>NUTRIENTS, lbs/dry ton</u>	<u>Average</u>	<u>9/22/06</u>	<u>3/12/07</u>	<u>10/4/07</u>
TKN, %	5.54	5.38	5.92	5.32
Ammonia N, %	0.13	0.2	0.17	0.03
Nitrate N, %	0.04	0.0013	0.001	0.115
<u>% Solids</u>	<u>17.83</u>	<u>18.17</u>	<u>16.17</u>	<u>19.16</u>
PAN	32.03	30.72	37.67	28.52

METALS

VDH Cumulative Loading Limit		Avg. Sludge Sample Concentration, mg/kg	9/22/06	3/12/07	10/4/07
Parameter	lbs/AC				
ARSENIC	27	1.93	1.5	2.9	1.4
CADMIUM	18	3.33	3	5	2
COPPER	1340	682.33	668	562	817
LEAD	270	47.00	45	37	59
MERCURY	16	2.73	3	3.5	1.7
MOLYBDENU	17	5.33	5	6	5
NICKEL	375	23.67	26	20	25
SELENIUM	29	4.63	3.2	5.3	5.4
ZINC	2,500	1,213.33	1200	1150	1290

CALCULATED SITE LIMITATION VALUES

NUTRIENT UPTAKE Parameter	Max. Period Sludge Loading, Dry Tons*		Max. Period Sludge Loading, Dry Tons*		Combined Totals
	KP HILL-1	KP HILL-2	KP HILL-3	KP HILL-4	
PAN	24.97	109.76	39.96	116.38	291.08

* - NOTE - The period specified is based upon one application every three years

CUMULATIVE METALS LOADING Parameter	Max. Available Lifetime, Years*		Max. Available Lifetime, Years*		Combined Totals
	KP HILL-1	KP HILL-2	KP HILL-3	KP HILL-4	
ARSENIC	693.84	4,065.87	1,110.14	3,233.27	9,103.12
CADMIUM	268.28	1,572.14	429.25	1,250.20	3,519.87
COPPER	97.57	571.75	156.11	454.67	1,280.09
LEAD	285.41	1,672.49	456.65	1,330.00	3,744.55
MERCURY	290.82	1,704.21	465.31	1,355.23	3,815.58
MOLYBDENUM	158.36	928.00	253.38	737.96	2,077.70
NICKEL	787.22	4,613.08	1,259.54	3,668.42	10,328.27
SELENIUM	310.96	1,822.22	497.54	1,449.07	4,079.79
ZINC	102.37	599.87	163.79	477.03	1,343.05

* - NOTE - The lifetime period calculated is based upon one application every three years

RECEIVED

MAY 20 2000

DEO WORO

SLUDGE UTILIZATION - AGRICULTURAL

Sludge will be applied to crop land or pasture land to obtain agronomic benefits as a plant nutrient source and soil conditioner. Enclosed in this plan are soil site evaluation maps detailing proposed sludge disposal sites (from Gary Whitley).

Sludges will not be applied to site slopes exceeding 15 percent. Best management practices will be utilized to minimize soil erosion. Sludge will be incorporated to any portion of the site if applied to areas subject to flooding at a 25 year or less frequency.

Application rates will be determined by using sludge composition, soil characteristics, climate, vegetation, cropping practices and other pertinent factors. Sites specific application rates will be proposed using pertinent sludge plant available nitrogen and crop uptake rates, the cumulative metal loading rates and the maximum calcium carbonate equivalent loading rates.

The annual sludge application rate will not exceed 15 dry tons per year and 10 percent of the maximum cumulative loading rate for any of the metals. The sludge will not be applied to any root crops or crops intended for human consumption in the raw form. Sludge applied to cultivated or bare soil will be incorporated by disking within 48 hours of application of sludge to any portion of the site to minimize non point source runoff. Pasture and hay fields will be clipped to a grass height of 4 inches or less prior to sludge application. Unless the sludge can be uniformly applied so as not to mat down the vegetation cover and can be clipped to 4 inches within one week of application. No sludge application will be made during times when the ground is saturated or ice or snow covered unless snow can be incorporated into the plow layer, and that the snow cover does not exceed one inch average depth. Sludge will not be applied to soils with a seasonal water table of less than eighteen inches. Sludge will not be applied within one hundred feet of the drinking water wells or springs or within one hundred feet from property lines unless adjoining property owners provide written concurrence that closer application is allowable.

RECEIVED

MAR 20 2003

DEQ-WCRO

Sludge application will be kept at a minimum of twenty five feet from public roads and fifty feet from all surface water courses unless incorporated. Sludge will not be deposited within twenty five feet of rock out crops. Sludge will be kept at least twenty five feet from drainage ditches or intermittent streams. There will be no liquid sludge application.

The field operator will be properly informed with respect to crop type, current soil pH (from no more than one year old soil test), application method (surface versus sub surface).

Spreader - The manure spreaders used to apply sludge will be calibrated annually. Based on the analysis of the sludge no nitrogen or phosphorus will be added for one growing season following application of sludge at agronomic rates, however, potassium will be added as needed based on a current soil test. Operator will be required to keep a daily record exhibiting the following information and allowing the following calculations on a field by field basis.

- 1) Field pH, proposed crop
- 2) Quantity of sludge received (wet tons)
- 3) Quantity of sludge applied (wet tons)
- 4) Rate of application is indicated
- 5) Field conditions are suitable
- 6) Vehicles - roads are properly cleaned

Truck vouchers detailing tons of sludge brought to a given field for application will be maintained. Monthly summary reporting forms will be maintained only in months of application. Temporary storage at a permitted application site will only be justified due to equipment breakdown, inclement weather or some other emergency situation and will not be used as a substitute for routine storage. Regulatory agencies will be notified by phone of the intent to temporarily store sludge followed up by a written report explaining the reasons for the on site storage, length of time and volume of sludge stored if this becomes necessary. The temporary storage location will be above the 25 year flood elevation. A synthetic liner will be provided over the sludge and if the sludge is stored for five or more days a synthetic liner will be provided under the sludge. Surface runoff diversion will be provided.

Because of its storage capabilities, the Town of Stuart will schedule sludge delivery to the farmer so that, for the most part, it will be spread on the day of delivery. Unless some unforeseen emergency arises, there will be no more than 24 hours between sludge delivery and land application. If the sludge is not land applied within 30 days of initiation of temporary storage, it must be moved to a routine sludge storage facility.

ITEM #109

RECEIVED

DEC 20 2000

DESMORO

THE TOWN OF STUART WILL ANALYZE SLUDGE ON A SEMI-ANNUAL BASIS.

SLUDGE USE OPTIONS TOWN OF STUART

1. a) $PAN(Hay) = 16 + (18) (0.5) = 25 \text{ lbs./dts}$
b) $PAN(Corn) = 16 + (18) (0.75) = 30 \text{ lbs./dts}$
2. a) $dts/A \text{ for hay} = (120) (0.7)/25 = 3.4 \text{ dts/A}$
or 15.5 wts/A
b) $dts/A \text{ for corn} = 160/30 = 5.3 \text{ dts/A}$
or 24 wts/A
3. Total sludge available per year
a) 820 wet tons or
b) 180 dry tons
4. Available acreage
a) corn = 68.7 acres
b) hay = 43.9 acres
5. a) Infrequent (1 in ³ yr) application to 16 acres per year of corn would use 384 wet tons/yr.
b) 70% of agronomic application of 3.4 dts/A or 15.5 wts/A (85 lbs. N/A) to 20 acres hay/yr for 1 in 4 yr repetitive cycle.
6. Supplemental fertilizer to be applied based on soil test recommendation of Virginia Cooperative Extension Service or Virginia Tech Soil Testing Laboratory.

7. The PAN is based on the crop yield depending on the productivity of the soil. This is based on the information in the table in appendix H of the Revised Sewerage Regulations.

For the corn land, sludge will only be applied in the late fall to early winter (after Oct.15) and the early spring prior to planting. For pastureland, the sludge will be applied between March 15 and Oct. 15. For hayland, sludge will be applied during March or after cuttings during the summer.

RECEIVED

SEP 20 2000

DRG WORO

**VIRGINIA DEQ NO EXPOSURE CERTIFICATION
FOR EXCLUSION FROM VPDES STORM WATER PERMITTING**

Submission of this **No Exposure Certification** constitutes notice that the entity identified below does not require permit authorization for its storm water discharges associated with industrial activity under the VPDES Permit Program due to the existence of a condition of **No Exposure**.

A condition of **No Exposure** exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the No Exposure exclusion. In addition, the exclusion from VPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the No Exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity below is certifying that a condition of No Exposure exists at its facility or site, and is obligated to comply with the terms and conditions at 9 VAC 25-31-120 E (the VPDES Permit Regulation).

Please Type or Print All Information. ALL INFORMATION ON THIS FORM MUST BE PROVIDED.

1. Facility Operator Information

Name: Town of Stuart

Mailing Address: 100 Patrick Ave.

City: Stuart State: VA Zip: 24171 Phone: 276-694-4477

2. Facility/Site Location Information

Facility Name: Stuart Waste Water Treatment Plant

Address: 709 Commerce Street

City: Stuart State: VA Zip: 24171

County Name: Patrick

Latitude: 36 degrees 38 minutes 10 seconds Longitude: 80 degrees 15 minutes 15 seconds

3. Was the facility or site previously covered under a VPDES storm water permit? Yes ☐ No ☒

If "Yes", enter the VPDES permit number: _____

4. SIC/Activity Codes: Primary: 4952 Secondary (if applicable): _____

5. Total size of facility/site associated with industrial activity: 0 acres

6. Have you paved or roofed over a formerly exposed pervious area in order to qualify for the No Exposure exclusion? Yes ☐ No ☒

If "Yes", please indicate approximately how much area was paved or roofed. Completing this question does not disqualify you for the No Exposure exclusion. However, DEQ may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

Less than one acre ☐

One to five acres ☐

More than five acres ☐

7. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions (1) through (11), you are not eligible for the No Exposure exclusion.**

	Yes	No
(1) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Materials or residuals on the ground or in storm water inlets from spill/leaks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(3) Materials or products from past industrial activity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) Material handling equipment (except adequately maintained vehicles)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) Materials or products during loading/unloading or transporting activities	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(6) Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(7) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(8) Materials or products handled/stored on roads or railways owned or maintained by the discharger	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(9) Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(10) Application or disposal of process wastewater (unless otherwise permitted)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(11) Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of no exposure and obtaining an exclusion from VPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under 9 VAC 25-31-120 E 2).

I understand that I am obligated to submit a No Exposure Certification form once every five years to the Department of Environmental Quality and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the Department, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under a VPDES permit prior to any point source discharge of storm water associated with industrial activity from the facility.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: Terry Tilley

Print Title: Town Manager

Signature: *Terry Tilley*

Date: 1-2-2013

For Department of Environmental Quality Use Only

Accepted/Not Accepted by: _____

Date: _____

Instructions for the NO EXPOSURE CERTIFICATION For Exclusion from VPDES Storm Water Permitting

Who May File a No Exposure Certification

In accordance with the Clean Water Act and the State Water Control Law, all industrial facilities that discharge storm water associated with industrial activity (as defined at 9 VAC 25-31-10) must apply for coverage under a VPDES permit. However, permit coverage is not required for industrial activity storm water discharges from a facility if the discharger can certify that a condition of "no exposure" exists at the facility or site.

Obtaining and Maintaining the No Exposure Exclusion

This form is used to certify that a condition of no exposure exists at the industrial facility or site described herein. This certification must be re-submitted at least once every five years.

The industrial facility operator must maintain a condition of no exposure at the facility or site in order for the no exposure exclusion to remain applicable. If conditions change resulting in the exposure of materials and/or activities to storm water, the facility operator must immediately obtain coverage under a VPDES storm water permit.

Where To File The No Exposure Certification

Submit the completed No Exposure Certification form with original signature to the DEQ Regional Office that serves the area where your facility is located. DEQ Regional Office addresses can be obtained from DEQ's website at www.deq.virginia.gov/regions, or by calling the DEQ at (804) 698-4000.

Completing The Form

Please type or print all information. ALL INFORMATION ON THE FORM MUST BE PROVIDED. One form must be completed for each facility or site for which you are seeking to certify a condition of no exposure.

Section 1 Facility Operator Information

Give the legal name (no nicknames or colloquial names) of the person, firm, public organization, or any other entity that operates the facility or site described in this certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager. Enter the complete address and telephone number of the operator.

Section 2 Facility Location Information

Enter the facility's official or legal name and complete street address. Also enter the county name and the latitude and longitude of the approximate center of the facility in degrees/minutes/seconds to the nearest 15 seconds.

Section 3 Previous VPDES Permit Coverage

Indicate whether the facility was previously covered under a VPDES storm water permit. If so, include the permit number.

Section 4 Standard Industrial Classification Codes

Enter the 4-digit SIC code which identifies the facility's primary activity, and second 4-digit SIC code identifying the facility's secondary activity, if applicable. SIC codes can be obtained from the Office of Management and Budget Standard Industrial Classification Manual, 1987.

Section 5 Facility Industrial Activity Area

Enter the total size of the site associated with industrial activity in acres.

Section 6 Formerly Exposed Pervious Area

Indicate whether you have paved or roofed over a formerly exposed, pervious area (i.e., lawn, meadow, dirt or gravel road/parking lot) in order to qualify for no exposure. If "yes", also indicate approximately how much area was paved or roofed over and is now impervious area.

Section 7 Exposure Checklist

Check "Yes" or "No" as appropriate to describe the exposure conditions at your facility. If you answer "Yes" to ANY of the questions (1) through (11) in this section, a potential for exposure exists at your site and you cannot certify to a condition of no exposure. You must obtain (or already have) coverage under a VPDES storm water permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then certify to a condition of no exposure.

Section 8 Certification

State statutes provide for severe penalties for submitting false information on this application form. State regulations require this No Exposure Certification to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, State, Federal, or other public facility: by either a principal executive or ranking elected official.

PUBLIC NOTICE BILLING INFORMATION FORM

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9 VAC 25-31-290.C.2:

Newspaper Name: The Enterprise

Agent/Department to be billed: Town of Stuart


Owner: Town of Stuart

Applicant's Address: P.O. Box 422

Stuart, VA 24171

Agent's Telephone No: 276-694-3811

Authorizing Agent:


Signature

Terry Tilley

Printed Name

Town Manager

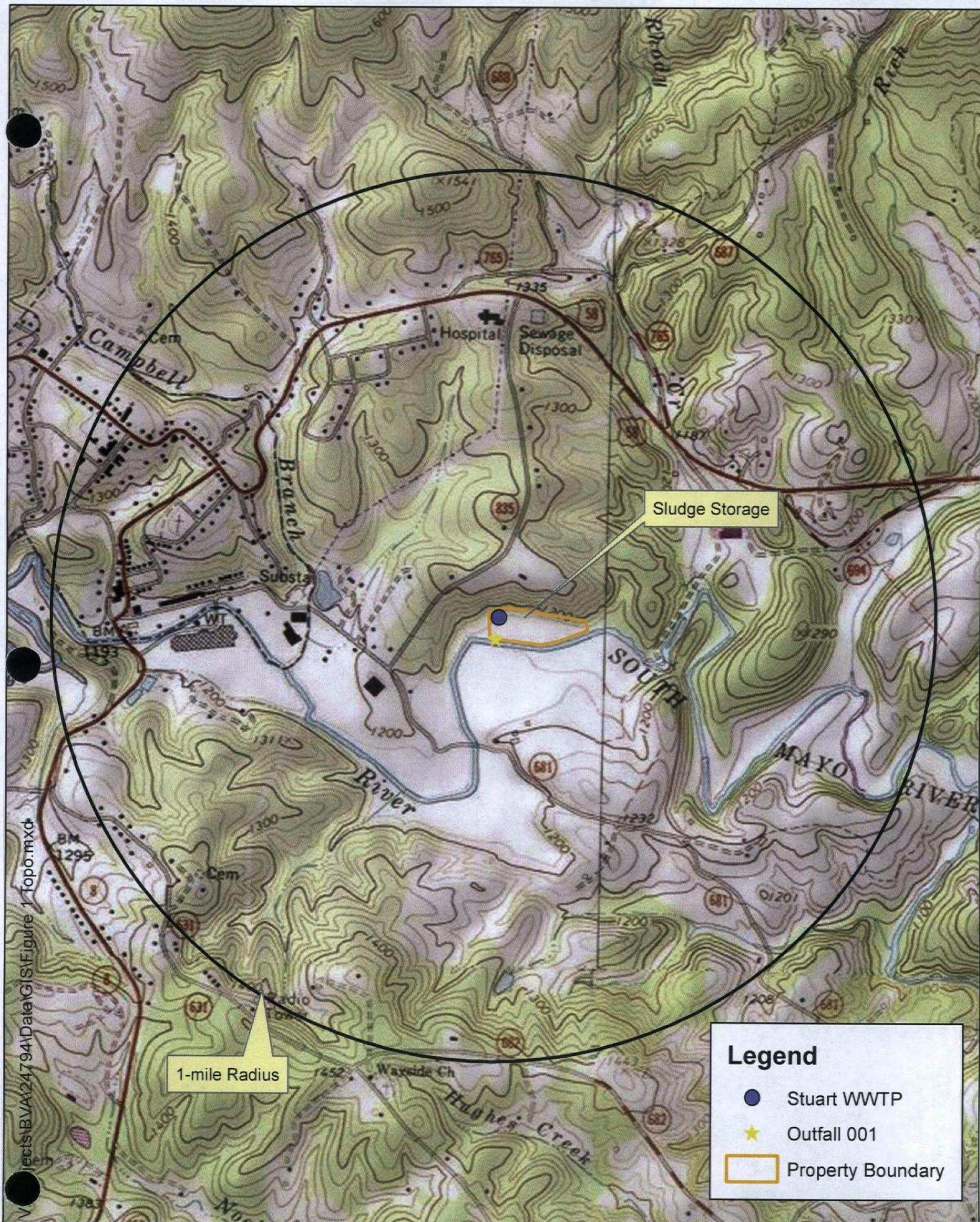
Title

Facility Name: Town of Stuart Wastewater Treatment Plant

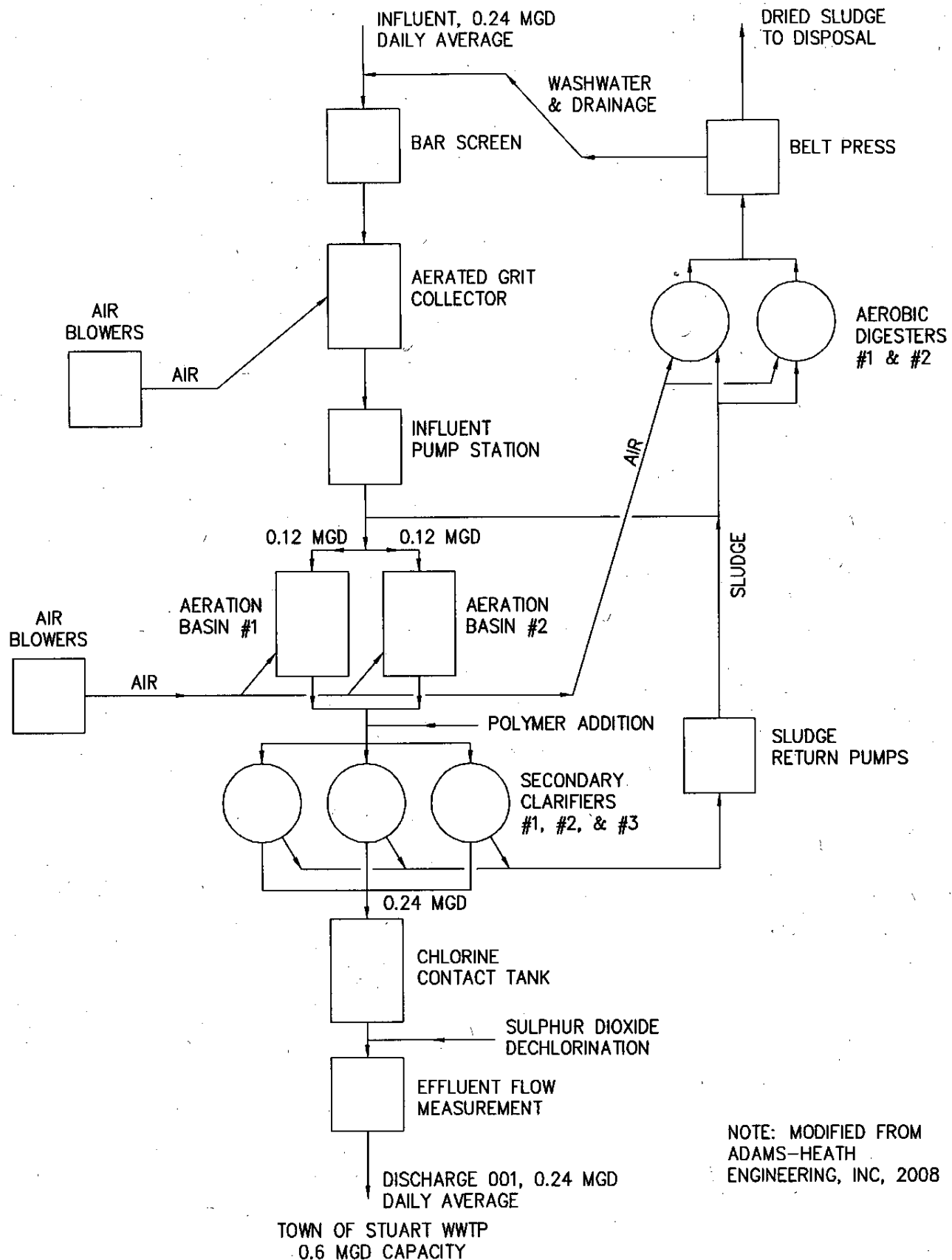
Permit No. VA0022985

Please return to:

Becky L. France
Department of Environmental Quality
3019 Peters Creek Road
Roanoke, VA 24019
Fax No. (540) 562-6725



File: V:\PROJECTS\BVA\24794\CADD\FIGURES\FIGURE 1.DWG Saved: 12/12/2012 11:16:48 AM Plotted: 12/12/2012 11:18:29 AM User: Hodge, Chris LastSavedBy: 3771



NOTE: MODIFIED FROM
ADAMS-HEATH
ENGINEERING, INC, 2008



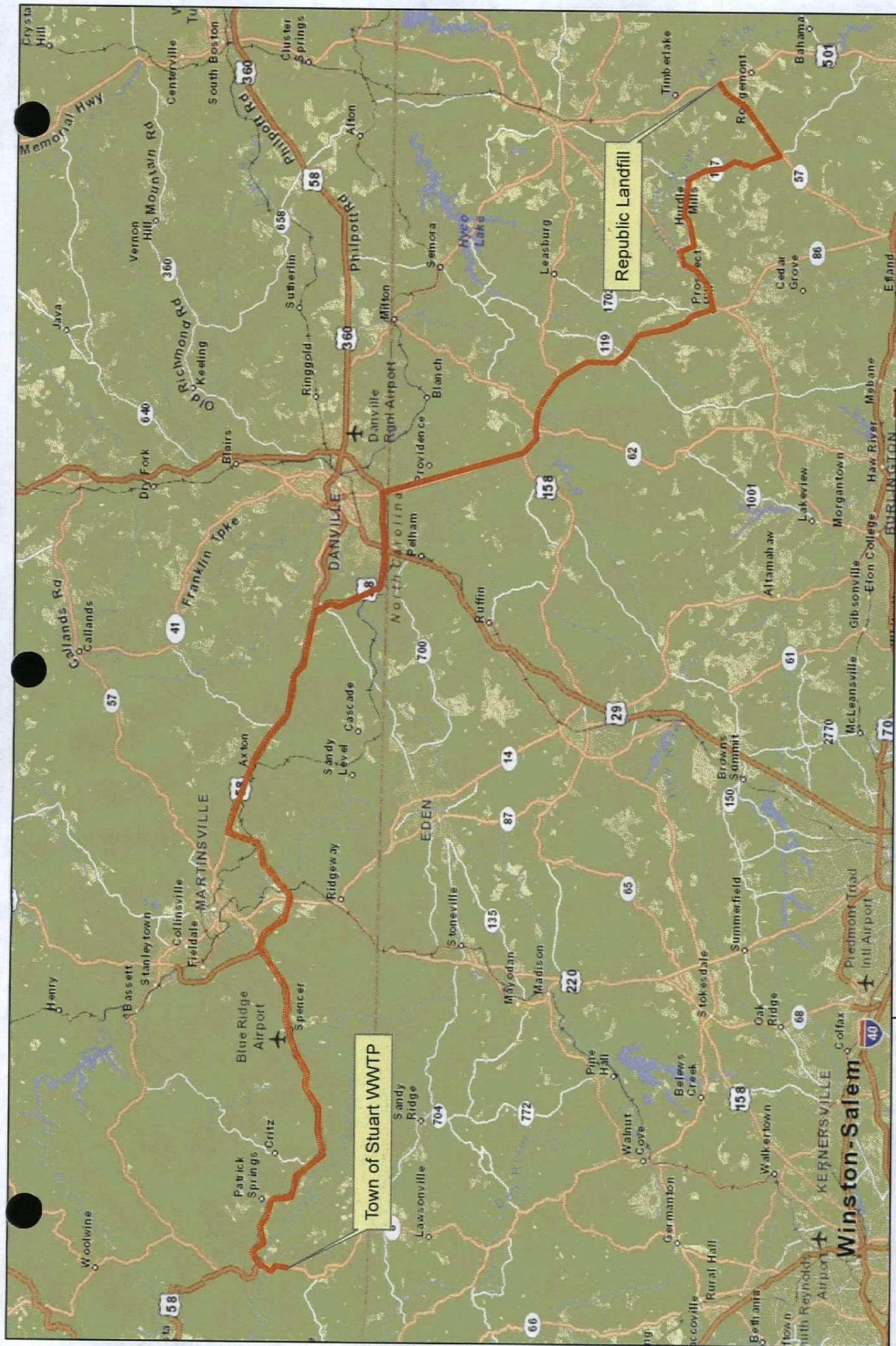
TOWN OF STUART WWTP TREATMENT SCHEMATIC

VPDES PERMIT APPLICATION

PROJECT NO.
24794

DATE: DEC 2012

FIGURE 2



 <p>1901 Innovation Drive, Suite 2100 • Blacksburg, VA 24060 Main: (640) 552-5548 • www.ciacompanies.com</p>	<p>VPDES Permit Application</p> <p>Figure 3 Haul Routes</p> <p><i>Town of Stuart Wastewater Treatment Plant</i></p>		<p>Project No. : 24794</p> <p>Date : December 2012</p> <p>0 3 6 9 Miles</p>
			



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

November 14, 2012

Ms. Sandra Warner
CHA, INC.
1901 Innovation Drive
Suite 2100
Blacksburg, VA 24060

RE: Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

Dear Ms. Warner:

Enclosed are the analytical results for sample(s) received by the laboratory on October 29, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-8092

CERTIFICATIONS

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL01264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236

Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pace Analytical Services - Ormond certification number
E83508
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Washington Certification #: C955
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

Eden Certification IDs

205 East Meadow Road Suite A, Eden, NC 27288
North Carolina Drinking Water Certification #: 37738

North Carolina Wastewater Certification #: 633
Virginia/VELAP Certification #: 460025

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28076
(704)875-9092

SAMPLE SUMMARY

Project: STUART WWTP ATTACHMENT A

Pace Project No.: 92136754

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92136754001	OUTFALL 001GRAB	Water	10/29/12 08:50	10/29/12 11:10
92136754002	OUTFALL 001COMP	Water	10/29/12 09:00	10/29/12 11:10

REPORT OF LABORATORY ANALYSIS

Page 3 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92136754001	OUTFALL 001GRAB	EPA E.coli by Membrane Filtr.	CLM	1	PASI-E
		EPA 608	JLG	26	PASI-O
		EPA 8081	JLG	5	PASI-O
		EPA 8141	WFH	7	PASI-O
		EPA 200.7	JMW	1	PASI-A
		EPA 200.7	JMW	10	PASI-A
		EPA 200.8	HEA	2	PASI-O
		EPA 245.1	SH1	1	PASI-A
		EPA 625	PPM	63	PASI-C
		EPA 624	AW	32	PASI-C
		SM 4500-S2D	AES	1	PASI-A
		SM 4500-CN-E	JDA	1	PASI-A
		EPA 350.1	LMD	1	PASI-A
92136754002	OUTFALL 001COMP				

REPORT OF LABORATORY ANALYSIS

Page 4 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinoy Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: STUART WWTP ATTACHMENT A

Pace Project No.: 92136754

Sample: OUTFALL 001GRAB

Lab ID: 92136754001

Collected: 10/29/12 08:50

Received: 10/29/12 11:10

Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
MBIO E.coli (Quantitation) Analytical Method: EPA E.coli by Membrane Filtr. Preparation Method: EPA E.coli by Membrane Filtr.									
E.coli	5.2 MPN/100mL		1.0	1.0	1	10/29/12 13:15	10/30/12 14:05		R2
608SF GCS Pesticides and PCBs Analytical Method: EPA 608									
Aldrin	ND ug/L		0.010	0.0063	1	10/31/12 03:30	10/31/12 17:59	309-00-2	
alpha-BHC	ND ug/L		0.010	0.0042	1	10/31/12 03:30	10/31/12 17:59	319-84-6	
beta-BHC	ND ug/L		0.010	0.0063	1	10/31/12 03:30	10/31/12 17:59	319-85-7	
gamma-BHC (Lindane)	ND ug/L		0.010	0.0042	1	10/31/12 03:30	10/31/12 17:59	58-89-9	
Chlordane (Technical)	ND ug/L		0.52	0.084	1	10/31/12 03:30	10/31/12 17:59	57-74-9	
4,4'-DDD	ND ug/L		0.010	0.0052	1	10/31/12 03:30	10/31/12 17:59	72-54-8	
4,4'-DDE	ND ug/L		0.010	0.0084	1	10/31/12 03:30	10/31/12 17:59	72-55-9	
4,4'-DDT	ND ug/L		0.010	0.0052	1	10/31/12 03:30	10/31/12 17:59	50-29-3	
Dieldrin	ND ug/L		0.010	0.0052	1	10/31/12 03:30	10/31/12 17:59	60-57-1	
Endosulfan I	ND ug/L		0.010	0.0052	1	10/31/12 03:30	10/31/12 17:59	959-98-8	
Endosulfan II	ND ug/L		0.010	0.0042	1	10/31/12 03:30	10/31/12 17:59	33213-65-9	
Endosulfan sulfate	ND ug/L		0.010	0.0042	1	10/31/12 03:30	10/31/12 17:59	1031-07-8	
Endrin	ND ug/L		0.010	0.0063	1	10/31/12 03:30	10/31/12 17:59	72-20-8	
Endrin aldehyde	ND ug/L		0.010	0.0084	1	10/31/12 03:30	10/31/12 17:59	7421-93-4	
Heptachlor	ND ug/L		0.010	0.0063	1	10/31/12 03:30	10/31/12 17:59	76-44-8	
Heptachlor epoxide	ND ug/L		0.010	0.0063	1	10/31/12 03:30	10/31/12 17:59	1024-57-3	
PCB-1016 (Aroclor 1016)	ND ug/L		0.52	0.084	1	10/31/12 03:30	10/31/12 17:08	12674-11-2	
PCB-1221 (Aroclor 1221)	ND ug/L		0.52	0.085	1	10/31/12 03:30	10/31/12 17:08	11104-28-2	
PCB-1232 (Aroclor 1232)	ND ug/L		0.52	0.12	1	10/31/12 03:30	10/31/12 17:08	11141-16-5	
PCB-1242 (Aroclor 1242)	ND ug/L		0.52	0.13	1	10/31/12 03:30	10/31/12 17:08	53469-21-9	
PCB-1248 (Aroclor 1248)	ND ug/L		0.52	0.29	1	10/31/12 03:30	10/31/12 17:08	12672-29-6	
PCB-1254 (Aroclor 1254)	ND ug/L		0.52	0.15	1	10/31/12 03:30	10/31/12 17:08	11097-69-1	
PCB-1260 (Aroclor 1260)	ND ug/L		0.52	0.11	1	10/31/12 03:30	10/31/12 17:08	11096-82-5	
Toxaphene	ND ug/L		0.52	0.39	1	10/31/12 03:30	10/31/12 17:59	8001-35-2	
Surrogates									
Tetrachloro-m-xylene (S)	94 %		53-110		1	10/31/12 03:30	10/31/12 17:59	877-09-8	
Decachlorobiphenyl (S)	68 %		61-121		1	10/31/12 03:30	10/31/12 17:59	2051-24-3	
8081 GCS Pesticides Analytical Method: EPA 8081									
Kepone	ND ug/L		10.4	0.19	1	10/31/12 03:30	11/12/12 20:35	143-50-0	
Methoxychlor	ND ug/L		0.010	0.0073	1	10/31/12 03:30	10/31/12 17:59	72-43-5	
Mirex	ND ug/L		0.010	0.0093	1	10/31/12 03:30	10/31/12 17:59	2385-85-5	
Surrogates									
Tetrachloro-m-xylene (S)	94 %		66.5-120.3		1	10/31/12 03:30	10/31/12 17:59	877-09-8	
Decachlorobiphenyl (S)	68 %		41.7-109.1		1	10/31/12 03:30	10/31/12 17:59	2051-24-3	
8141GCS O/P Extended Pesticide Analytical Method: EPA 8141									
Azinphos, methyl (Guthion)	ND ug/L		0.52	0.28	1	11/02/12 10:00	11/05/12 07:33	86-50-0	
Chlorpyrifos	ND ug/L		0.52	0.25	1	11/02/12 10:00	11/05/12 07:33	2921-88-2	
Demeton-O	ND ug/L		0.52	0.21	1	11/02/12 10:00	11/05/12 07:33	298-03-3	
Demeton-S	ND ug/L		0.52	0.23	1	11/02/12 10:00	11/05/12 07:33	126-75-0	L2

Date: 11/14/2012 04:08 PM

REPORT OF LABORATORY ANALYSIS

Page 5 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8821

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

Sample: OUTFALL 001GRAB Lab ID: 92136754001 Collected: 10/29/12 08:50 Received: 10/29/12 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8141GCS O/P Extended Pesticide Analytical Method: EPA 8141									
Malathion	ND	ug/L	0.52	0.28	1	11/02/12 10:00	11/05/12 07:33	121-75-5	
Parathion (Ethyl parathion)	ND	ug/L	1.0	0.49	1	11/02/12 10:00	11/05/12 07:33	56-38-2	
Surrogates									
4-Chloro3nitrobenzotrifluoride	64 %		34.2-122		1	11/02/12 10:00	11/05/12 07:33		
200.7 MET ICP Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Chromium	2.0J	ug/L	5.0	0.40	1	10/31/12 11:50	11/07/12 22:15	7440-47-3	
200.7 MET ICP, Dissolved Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Antimony, Dissolved	ND	ug/L	5.0	2.6	1	10/31/12 19:30	11/02/12 05:13	7440-36-0	
Arsenic, Dissolved	ND	ug/L	5.0	2.7	1	10/31/12 19:30	11/02/12 14:50	7440-38-2	
Beryllium, Dissolved	0.12J	ug/L	1.0	0.10	1	10/31/12 19:30	11/02/12 05:13	7440-41-7	
Cadmium, Dissolved	ND	ug/L	1.0	0.50	1	10/31/12 19:30	11/02/12 05:13	7440-43-9	
Chromium, Dissolved	2.2J	ug/L	5.0	0.40	1	10/31/12 19:30	11/02/12 05:13	7440-47-3	
Copper, Dissolved	7.6	ug/L	5.0	0.30	1	10/31/12 19:30	11/02/12 05:13	7440-50-8	
Nickel, Dissolved	1.9J	ug/L	5.0	1.7	1	10/31/12 19:30	11/02/12 14:50	7440-02-0	
Selenium, Dissolved	ND	ug/L	10.0	3.8	1	10/31/12 19:30	11/02/12 05:13	7782-49-2	
Thallium, Dissolved	ND	ug/L	10.0	3.0	1	10/31/12 19:30	11/02/12 14:50	7440-28-0	
Zinc, Dissolved	84.6	ug/L	10.0	0.40	1	10/31/12 19:30	11/02/12 05:13	7440-66-6	
200.8 MET ICPMS, Dissolved Analytical Method: EPA 200.8									
Silver, Dissolved	ND	ug/L	0.10	0.050	1	11/02/12 09:40	11/02/12 15:39	7440-22-4	
Lead, Dissolved	ND	ug/L	1.0	0.50	1	11/02/12 09:40	11/02/12 15:39	7439-92-1	
245.1 Mercury, Dissolved Analytical Method: EPA 245.1 Preparation Method: EPA 245.1									
Mercury, Dissolved	ND	ug/L	0.20	0.090	1	11/01/12 17:20	11/02/12 14:16	7439-97-6	
625 MSSV Analytical Method: EPA 625 Preparation Method: EPA 625									
Acenaphthene	ND	ug/L	5.0	0.25	1	10/31/12 14:30	11/02/12 01:12	83-32-9	
Acenaphthylene	ND	ug/L	5.0	0.21	1	10/31/12 14:30	11/02/12 01:12	208-96-8	
Anthracene	ND	ug/L	5.0	0.14	1	10/31/12 14:30	11/02/12 01:12	120-12-7	
Benzidine	ND	ug/L	50.0	5.1	1	10/31/12 14:30	11/02/12 01:12	92-87-5	
Benzo(a)anthracene	ND	ug/L	5.0	0.33	1	10/31/12 14:30	11/02/12 01:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	5.0	0.30	1	10/31/12 14:30	11/02/12 01:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	5.0	0.28	1	10/31/12 14:30	11/02/12 01:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	5.0	0.38	1	10/31/12 14:30	11/02/12 01:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	5.0	0.43	1	10/31/12 14:30	11/02/12 01:12	207-08-9	
4-Bromophenylphenyl ether	ND	ug/L	5.0	0.82	1	10/31/12 14:30	11/02/12 01:12	101-55-3	
Butylbenzylphthalate	ND	ug/L	5.0	0.79	1	10/31/12 14:30	11/02/12 01:12	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	5.0	3.7	1	10/31/12 14:30	11/02/12 01:12	59-50-7	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	0.92	1	10/31/12 14:30	11/02/12 01:12	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	5.0	1.0	1	10/31/12 14:30	11/02/12 01:12	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	5.0	0.95	1	10/31/12 14:30	11/02/12 01:12	108-60-1	
2-Chloronaphthalene	ND	ug/L	5.0	0.98	1	10/31/12 14:30	11/02/12 01:12	91-58-7	
2-Chlorophenol	ND	ug/L	5.0	1.3	1	10/31/12 14:30	11/02/12 01:12	95-57-8	

Date: 11/14/2012 04:08 PM

REPORT OF LABORATORY ANALYSIS

Page 6 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

Sample: OUTFALL 001GRAB Lab ID: 92136754001 Collected: 10/29/12 08:50 Received: 10/29/12 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV Analytical Method: EPA 625 Preparation Method: EPA 625									
4-Chlorophenylphenyl ether	ND	ug/L	5.0	0.87	1	10/31/12 14:30	11/02/12 01:12	7005-72-3	
Chrysene	ND	ug/L	5.0	0.21	1	10/31/12 14:30	11/02/12 01:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	5.0	0.55	1	10/31/12 14:30	11/02/12 01:12	53-70-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.88	1	10/31/12 14:30	11/02/12 01:12	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	0.81	1	10/31/12 14:30	11/02/12 01:12	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	0.95	1	10/31/12 14:30	11/02/12 01:12	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/L	25.0	2.1	1	10/31/12 14:30	11/02/12 01:12	91-94-1	
2,4-Dichlorophenol	ND	ug/L	5.0	1.7	1	10/31/12 14:30	11/02/12 01:12	120-83-2	
Diethylphthalate	ND	ug/L	5.0	0.58	1	10/31/12 14:30	11/02/12 01:12	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1.2	1	10/31/12 14:30	11/02/12 01:12	105-67-9	
Dimethylphthalate	ND	ug/L	5.0	0.76	1	10/31/12 14:30	11/02/12 01:12	131-11-3	
Di-n-butylphthalate	ND	ug/L	5.0	0.75	1	10/31/12 14:30	11/02/12 01:12	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	2.6	1	10/31/12 14:30	11/02/12 01:12	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	9.0	1	10/31/12 14:30	11/02/12 01:12	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	5.0	0.90	1	10/31/12 14:30	11/02/12 01:12	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	5.0	0.98	1	10/31/12 14:30	11/02/12 01:12	606-20-2	
Di-n-octylphthalate	ND	ug/L	5.0	0.66	1	10/31/12 14:30	11/02/12 01:12	117-84-0	
1,2-Diphenylhydrazine	ND	ug/L	5.0	0.90	1	10/31/12 14:30	11/02/12 01:12	122-66-7	
bis(2-Ethylhexyl)phthalate	5.9	ug/L	5.0	0.79	1	10/31/12 14:30	11/02/12 01:12	117-81-7	
Fluoranthene	ND	ug/L	5.0	0.21	1	10/31/12 14:30	11/02/12 01:12	206-44-0	
Fluorene	ND	ug/L	5.0	0.21	1	10/31/12 14:30	11/02/12 01:12	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	0.94	1	10/31/12 14:30	11/02/12 01:12	87-68-3	
Hexachlorobenzene	ND	ug/L	5.0	0.72	1	10/31/12 14:30	11/02/12 01:12	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	0.88	1	10/31/12 14:30	11/02/12 01:12	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1.1	1	10/31/12 14:30	11/02/12 01:12	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	0.29	1	10/31/12 14:30	11/02/12 01:12	193-39-5	
Isophorone	ND	ug/L	10.0	0.89	1	10/31/12 14:30	11/02/12 01:12	78-59-1	
Naphthalene	ND	ug/L	5.0	0.34	1	10/31/12 14:30	11/02/12 01:12	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1.1	1	10/31/12 14:30	11/02/12 01:12	98-95-3	
2-Nitrophenol	ND	ug/L	5.0	0.91	1	10/31/12 14:30	11/02/12 01:12	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	4.1	1	10/31/12 14:30	11/02/12 01:12	100-02-7	
N-Nitrosodimethylamine	ND	ug/L	5.0	0.91	1	10/31/12 14:30	11/02/12 01:12	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	5.0	0.99	1	10/31/12 14:30	11/02/12 01:12	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1.0	1	10/31/12 14:30	11/02/12 01:12	86-30-6	
Pentachlorophenol	ND	ug/L	25.0	4.6	1	10/31/12 14:30	11/02/12 01:12	87-86-5	
Phenanthrene	ND	ug/L	5.0	0.22	1	10/31/12 14:30	11/02/12 01:12	85-01-8	
Phenol	ND	ug/L	5.0	1.9	1	10/31/12 14:30	11/02/12 01:12	106-95-2	
Pyrene	ND	ug/L	5.0	0.19	1	10/31/12 14:30	11/02/12 01:12	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	0.98	1	10/31/12 14:30	11/02/12 01:12	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1.3	1	10/31/12 14:30	11/02/12 01:12	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	60 %		10-120		1	10/31/12 14:30	11/02/12 01:12	4165-60-0	
2-Fluorobiphenyl (S)	59 %		15-120		1	10/31/12 14:30	11/02/12 01:12	321-60-8	
Terphenyl-d14 (S)	102 %		11-131		1	10/31/12 14:30	11/02/12 01:12	1718-51-0	
Phenol-d6 (S)	24 %		10-120		1	10/31/12 14:30	11/02/12 01:12	13127-88-3	
2-Fluorophenol (S)	33 %		10-120		1	10/31/12 14:30	11/02/12 01:12	367-12-4	

Date: 11/14/2012 04:08 PM

REPORT OF LABORATORY ANALYSIS

Page 7 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)823-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-8092

ANALYTICAL RESULTS

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

Sample: OUTFALL 001GRAB Lab ID: 92136754001 Collected: 10/29/12 08:50 Received: 10/29/12 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV									
Analytical Method: EPA 625 Preparation Method: EPA 625									
Surrogates									
2,4,6-Tribromophenol (S)	73 %		10-137		1	10/31/12 14:30	11/02/12 01:12	118-79-6	
624 Volatile Organics									
Analytical Method: EPA 624									
Acrolein	ND ug/L		100	8.8	1		11/02/12 11:37	107-02-8	
Acrylonitrile	ND ug/L		100	11.5	1		11/02/12 11:37	107-13-1	
Benzene	ND ug/L		5.0	1.7	1		11/02/12 11:37	71-43-2	
Bromodichloromethane	2.0J ug/L		5.0	1.7	1		11/02/12 11:37	75-27-4	
Bromoform	ND ug/L		5.0	1.5	1		11/02/12 11:37	75-25-2	
Bromomethane	ND ug/L		10.0	2.5	1		11/02/12 11:37	74-83-9	
Carbon tetrachloride	ND ug/L		5.0	1.9	1		11/02/12 11:37	56-23-5	
Chlorobenzene	ND ug/L		5.0	1.7	1		11/02/12 11:37	108-90-7	
Chloroethane	ND ug/L		10.0	1.6	1		11/02/12 11:37	75-00-3	
2-Chloroethylvinyl ether	ND ug/L		10.0	2.2	1		11/02/12 11:37	110-75-8	
Chloroform	12.2 ug/L		5.0	1.9	1		11/02/12 11:37	67-66-3	
Dibromochloromethane	ND ug/L		5.0	1.8	1		11/02/12 11:37	124-48-1	
1,1-Dichloroethane	ND ug/L		5.0	1.8	1		11/02/12 11:37	75-34-3	
1,2-Dichloroethane	ND ug/L		5.0	1.8	1		11/02/12 11:37	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	1.9	1		11/02/12 11:37	75-35-4	
trans-1,2-Dichloroethene	ND ug/L		5.0	1.8	1		11/02/12 11:37	156-60-5	
1,2-Dichloropropane	ND ug/L		5.0	1.7	1		11/02/12 11:37	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		5.0	1.6	1		11/02/12 11:37	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		5.0	1.6	1		11/02/12 11:37	10061-02-6	
Ethylbenzene	ND ug/L		5.0	1.6	1		11/02/12 11:37	100-41-4	
Methylene Chloride	ND ug/L		5.0	1.9	1		11/02/12 11:37	75-09-2	
1,1,2,2-Tetrachloroethane	ND ug/L		5.0	1.5	1		11/02/12 11:37	79-34-5	
Tetrachloroethene	ND ug/L		5.0	1.8	1		11/02/12 11:37	127-18-4	
Toluene	ND ug/L		5.0	1.6	1		11/02/12 11:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		5.0	1.9	1		11/02/12 11:37	71-55-6	
1,1,2-Trichloroethane	ND ug/L		5.0	1.7	1		11/02/12 11:37	79-00-5	
Trichloroethene	ND ug/L		5.0	1.8	1		11/02/12 11:37	79-01-6	
Vinyl chloride	ND ug/L		5.0	1.5	1		11/02/12 11:37	75-01-4	
Surrogates									
Dibromofluoromethane (S)	93 %		70-130		1		11/02/12 11:37	1868-53-7	
4-Bromofluorobenzene (S)	110 %		70-130		1		11/02/12 11:37	460-00-4	
Toluene-d8 (S)	96 %		70-130		1		11/02/12 11:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		11/02/12 11:37	17060-07-0	
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D									
Sulfide	ND mg/L		0.10	0.10	1		11/03/12 13:35	18496-25-8	
4500CNE Cyanide, Total									
Analytical Method: SM 4500-CN-E									
Cyanide	ND mg/L		0.0050	0.0050	1		11/11/12 14:11	57-12-5	

Date: 11/14/2012 04:08 PM

REPORT OF LABORATORY ANALYSIS

Page 8 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27286
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: STUART WWTP ATTACHMENT A

Pace Project No.: 92136754

Sample: OUTFALL 001COMP

Lab ID: 92136754002

Collected: 10/29/12 09:00

Received: 10/29/12 11:10

Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia									
Analytical Method: EPA 350.1									
Nitrogen, Ammonia	0.17	mg/L	0.10	0.10	1		11/05/12 18:30	7664-41-7	

Date: 11/14/2012 04:08 PM

REPORT OF LABORATORY ANALYSIS

Page 9 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PRL - Pace Reporting Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville
PASI-C Pace Analytical Services - Charlotte
PASI-E Pace Analytical Services - Eden
PASI-O Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: GCSV/7189

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/7222

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1 RPD value was outside control limits.

Date: 11/14/2012 04:08 PM

REPORT OF LABORATORY ANALYSIS

Page 30 of 32

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
.9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: STUART WWTP ATTACHMENT A
Pace Project No.: 92136754

ANALYTE QUALIFIERS

R2 RPD value was outside control limits due to matrix interference

ANALYTICAL DATA REPORT

UL ORDER ID **1210532**UL Sample Number **1210532-001**Sample Site: **OUTFALL 001 GRAB**Grab Date/Time: **10/29/2012 08:50:00**Client Sample ID: **92136754001**Composite Start: **N/A**Sample Matrix: **Wastewater**Composite Stop: **N/A**Collected By: **CLIENT**

Parameter	Test Result	Units	RL	Analysis Date/Time	Location	Comment
<hr/>						
<u>GC/FPD</u>						
TBT Tributyltin	<0.03	ug/L	0.03	11/6/2012 16:18:00	HAM	

Comments for 1210532-001

No comments

ANALYTICAL DATA REPORT

UL ORDER ID **1210532**

Analytical Methods Reference

Description:

Prep Method:

Method

Reference

accredited/status

Wastewater

TBT Tributyltin

liq/liq

GC/FPD

Accredited

VDEH Lab# 00030 (Hampton)

VDEH Lab# 00085 (Fredericksburg)

NCWW Lab # 543 (Hampton)

NCDW Lab # 51708 (Hampton)

VELAP ID 460036 (Hampton)

VELAP ID 460184 (Fredericksburg)

NOTE: Analysis is performed according to Universal Laboratories Standard Operating Procedures which are based on the analytical methods referenced above

GLOSSARY OF TERMS AND ABBREVIATIONS

RL (Reporting Limit): The minimum levels, concentrations, or quantities of target analyte that can be reported with a specified degree of confidence. Generally this number is near or equal to the lowest calibration standard run with the analytical batch.

MDL (Method Detection Limit): The constituent concentration that, when processed through the complete method, produces a signal with a 99% probability that it is different from the blank.

LCS (Laboratory Control Sample): is a sample matrix free from the analytes of interest, spiked with verified amounts of analytes.

MS (Matrix Spike): a sample prepared by adding a known mass of target analyte to a specific amount of sample for which an independent estimate of target analyte concentration is available.

MSD (Matrix Spike Duplicate): is a replicate matrix spike prepared in the laboratory and analyzed to obtain a measure of the precision recovery for each analyte.

Surrogate is a substance with properties that mimic the analyte of interest. It is unlikely to be found in environmental samples and is added to them for quality control purposes.

IS (Internal Standard): is a known amount of standard added to a test portion of the sample as a reference for evaluation and controlling the precision and bias of the applied analytical method.

RPD (Relative Percent Difference) is the difference between a set of sample duplicates or sample spike duplicates.

ICV (Initial Calibration Verification) CCV (Continuing Calibration Verification) FCV (Final Calibration Verification)

Method Blank is a sample matrix similar to the batch of associated samples that is free from analytes of interest and is processed simultaneously with and under the same conditions as samples.

Trip Blank is a sample of analyte free media collected in the same type of container that is required for the analytical test, taken from the laboratory to the sampling site and returned to the laboratory unopened. A trip blank is used to document contamination attributable to shipping and field handling procedures.

Holding Time is the maximum times that samples may be held prior to analysis and still be considered valid or not compromised.

ug/L=ppb ug/kg=ppb mg/kg=ppm mg/L=ppm

HAM= Analyzed in Hampton Lab

FRED= Analyzed in Fredericksburg Lab

QC Flag	Description
B	Analyte found in method blank
H	Holding time exceeded
L	LCS outside acceptable limits
V	ICV/CCV/FCV outside acceptable limits
D	RPD outside acceptable limits
MS	Matrix spike recovery outside acceptable limits
J	Result above calibration curve approximate value
QC	Method QC Criteria not met
MI	Matrix Interference
S	Surrogate outside acceptable limits
IS	Internal standard outside acceptable limits

November 09, 2012

Ms. Sandra Warner
CHA, INC.
1901 Innovation Drive
Suite 2100
Blacksburg, VA 24060

RE: Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

Dear Ms. Warner:

Enclosed are the analytical results for sample(s) received by the laboratory on October 29, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

CERTIFICATIONS

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92136751001	OUTFALL 001 GRAB	Water	10/29/12 08:30	10/29/12 11:10
92136751002	OUTFALL 001 COMP	Water	10/29/12 09:00	10/29/12 11:10

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

SAMPLE ANALYTE COUNT

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92136751001	OUTFALL 001 GRAB	EPA 1664A	CLW	1	PASI-C
92136751002	OUTFALL 001 COMP	SM 2540C	LMD	1	PASI-A
		EPA 351.2	JDA	1	PASI-A
		EPA 353.2	DMN	1	PASI-A
		EPA 365.1	EWS	1	PASI-A

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: STUART WWTP VPDES PERMIT APP

Pace Project No.: 92136751

Sample: OUTFALL 001 GRAB Lab ID: 92136751001 Collected: 10/29/12 08:30 Received: 10/29/12 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease Analytical Method: EPA 1664A									
Oil and Grease	ND	mg/L	5.0	1.1	1		11/02/12 08:50		

ANALYTICAL RESULTS

Project: STUART WWTP VPDES PERMIT APP

Pace Project No.: 92136751

Sample: OUTFALL 001 COMP Lab ID: 92136751002 Collected: 10/29/12 09:00 Received: 10/29/12 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	369	mg/L	25.0	25.0	1		11/02/12 19:36		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	1.8	mg/L	0.50	0.50	1		11/06/12 11:14	7727-37-9	
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	9.1	mg/L	0.060	0.060	3		11/01/12 19:30		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1								
Phosphorus	2.2	mg/L	0.050	0.050	1		11/08/12 15:22	7723-14-0	

QUALITY CONTROL DATA

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

QC Batch: GCSV/13224 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 92136751001

METHOD BLANK: 864823 Matrix: Water
Associated Lab Samples: 92136751001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	11/02/12 08:45	

LABORATORY CONTROL SAMPLE & LCSD: 864824		864825								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	40	35.0	32.9	88	82	78-114	6	30	

QUALITY CONTROL DATA

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

QC Batch: WET/22998 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92136751002

METHOD BLANK: 865811 Matrix: Water
Associated Lab Samples: 92136751002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	11/02/12 19:35	

LABORATORY CONTROL SAMPLE: 865812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	228	91	80-120	

SAMPLE DUPLICATE: 865813

Parameter	Units	92136751002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	369	367	1	20	

SAMPLE DUPLICATE: 865814

Parameter	Units	92137008003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	503	505	0	20	

QUALITY CONTROL DATA

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

QC Batch: WETA/13663 Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN
Associated Lab Samples: 92136751002

METHOD BLANK: 866037 Matrix: Water
Associated Lab Samples: 92136751002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	0.50	11/06/12 11:00	

LABORATORY CONTROL SAMPLE: 866038

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	10	9.7	97	90-110	

MATRIX SPIKE SAMPLE: 866039

Parameter	Units	92136840007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	10	8.3	83	90-110	M1

MATRIX SPIKE SAMPLE: 866041

Parameter	Units	92136751002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	1.8	10	11.6	98	90-110	

SAMPLE DUPLICATE: 866040

Parameter	Units	92136932001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	101	101	1	20	

SAMPLE DUPLICATE: 866042

Parameter	Units	92136979001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	1.3	1.2	9	20	

QUALITY CONTROL DATA

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

QC Batch: WETA/13641 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 92136751002

METHOD BLANK: 864937 Matrix: Water
Associated Lab Samples: 92136751002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.020	11/01/12 19:09	

LABORATORY CONTROL SAMPLE: 864938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	100	90-110	

MATRIX SPIKE SAMPLE: 864939

Parameter	Units	92136932003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.024	2.5	2.4	95	90-110	

MATRIX SPIKE SAMPLE: 864941

Parameter	Units	92136932004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.047	2.5	2.4	93	90-110	

SAMPLE DUPLICATE: 864940

Parameter	Units	92136932003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.024	0.028	14	20	

SAMPLE DUPLICATE: 864942

Parameter	Units	92136932004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.047	0.044	7	20	

QUALITY CONTROL DATA

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

QC Batch: WETA/13649 Analysis Method: EPA 365.1
QC Batch Method: EPA 365.1 Analysis Description: 365.1 Phosphorus, Total
Associated Lab Samples: 92136751002

METHOD BLANK: 865104 Matrix: Water
Associated Lab Samples: 92136751002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/L	ND	0.050	11/08/12 15:06	

LABORATORY CONTROL SAMPLE: 865105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	2.5	2.7	107	90-110	

MATRIX SPIKE SAMPLE: 865107

Parameter	Units	92136932001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	49.2	2.5	47.6	-64	90-110 M6	

MATRIX SPIKE SAMPLE: 865109

Parameter	Units	92136380001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	2.0	2.5	4.6	102	90-110	

SAMPLE DUPLICATE: 865106

Parameter	Units	92136932001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phosphorus	mg/L	49.2	45.3	8	20	

SAMPLE DUPLICATE: 865108

Parameter	Units	92136380001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phosphorus	mg/L	2.0	2.0	0	20	

QUALIFIERS

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92136751

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: STUART WWTP VPDES PERMIT APP

Pace Project No.: 92136751

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92136751001	OUTFALL 001 GRAB	EPA 1664A	GCSV/13224		
92136751002	OUTFALL 001 COMP	SM 2540C	WET/22998		
92136751002	OUTFALL 001 COMP	EPA 351.2	WETA/13663		
92136751002	OUTFALL 001 COMP	EPA 353.2	WETA/13641		
92136751002	OUTFALL 001 COMP	EPA 365.1	WETA/13649		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Face Analytical
www.faceanals.com

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: CHA Consulting, Inc.		Report To: Lawrence Hoffman		Attention: Inquiries@chacompanies.com	
Address: 1701 Innovation Drive, Suite 215		Copy To: Amanda Marsh		Company Name:	
Blacksburg, VA 24060		Amarash@chacompanies.com		Address:	
Email To: l.hoffman@chacompanies.com		Purchase Order No.:		Face Order Reference: 00004970	
Phone: 540-532-5348		Project Name: Stuart WWP WDES Permit Application		Site Location: Kevin Godwin	
Requested Due Date: 10 day		Project Number: 24794.1000.4000		State: VA	


Section D Required Client Information		Section E Requested Analysis Filtered (Y/N)		Section F Requested Analysis Filtered (Y/N)	
MATRIX CODE	MATRIX CODE	ANALYSIS TEST	ANALYSIS TEST	ANALYSIS TEST	ANALYSIS TEST
1. Drinking Water	1. Drinking Water	TKN	TKN	TKN	TKN
2. Wastewater	2. Wastewater	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite
3. Industrial Wastewater	3. Industrial Wastewater	Oil & Grease Total	Oil & Grease Total	Oil & Grease Total	Oil & Grease Total
4. Surface Water	4. Surface Water	Total Phosphorus	Total Phosphorus	Total Phosphorus	Total Phosphorus
5. Groundwater	5. Groundwater	Total Chlorine	Total Chlorine	Total Chlorine	Total Chlorine
6. Air	6. Air				
7. Soil	7. Soil				
8. Sediment	8. Sediment				
9. Other	9. Other				
10. Other	10. Other				
11. Other	11. Other				
12. Other	12. Other				

Important Note: By signing this form you are accepting Face's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Signature of Sampler: Ashley Rude
Signature of Sampler: Ashley Rude
Date Signed: 10/27/12
Date Signed: 10/27/12

Original

FALL-Q-020(rev.07), 15-May-2007

	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 12, 2012
	Document No.: F-EDN-CS-003-rev.07	Page 1 of 2
		Issuing Authorities: Pace Eden Quality Office

Client Name: CHA

Project # 92136751

Where Received: ☐ Huntersville ☐ Asheville ☒ Eden

Courier (circle): Fed Ex UPS USPS Client Commercial Pace Other

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used: IR Gun ED007

Type of Ice: Wet Blue None

☒ Samples on Ice, cooling process has begun

Temp Correction Factor: Add/ Subtract 1.0 C

Corrected Cooler Temp.: 2.9 C

Biological Tissue Is Frozen: Yes No N/A

Date and Initials of person examining contents: 10/29/12

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WW</u>		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: 1/2 Date: 10/29/12 SRF Review: AmB Date: 10/29/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Sample Bottle Codes

[illegible]

Client Sample ID(s)	Sample Discrepancy

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation Adjusted	Time Preservation Adjusted	Amount of Preservative added	Lot# of Preservative

Bottle Code Key

125 ml Plastic Unp: BP4U
250 ml Plastic Unp: BP3U
500 ml Plastic Unp: BP2U
1 Liter Plastic Unp: BP1U
250 ml Plastic H₂SO₄: BP3S
250 ml Plastic HNO₃: BP3N
250 ml Plastic Zn Acetate: BP3Z
250 ml Plastic NaOH: BP3C
Wide mouthed glass jar unp: WGFU

1 Liter Amber Unp: AG1U
1 Liter Amber HCl: AG1H
500 ml Amber Unp: AG2U
1 Liter Amber H2SO4: AG1S
250 ml Amber H2SO4: AG3S
250 ml Amber NH4Cl: AG3A
40 ml VOA HCl: DG9H
40 ml VOA Na2S2O3: VG9T
40 ml VOA Unp: VG9U

40 ml VOA H2SO4: DG9S
5036 Kit: VOA
VPH / Gas Kit : V/GK
125 ml Sterile Plastic: SP5T
250 ml Sterile Plastic: SP2T

November 20, 2012

Ms. Sandra Warner
CHA, INC.
1901 Innovation Drive
Suite 2100
Blacksburg, VA 24060

RE: Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92138254

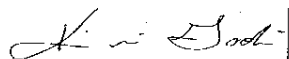
Dear Ms. Warner:

Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

CERTIFICATIONS

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92138254

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Eden Certification IDs

205 East Meadow Road Suite A, Eden, NC 27288
North Carolina Drinking Water Certification #: 37738

North Carolina Wastewater Certification #: 633
Virginia/VELAP Certification #: 460025

REPORT OF LABORATORY ANALYSIS

Page 2 of 8

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

SAMPLE SUMMARY

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92138254

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92138254001	OUTFALL 001	Water	11/12/12 09:30	11/12/12 15:30

REPORT OF LABORATORY ANALYSIS

Page 3 of 8

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92138254

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92138254001	OUTFALL 001	EPA E.coli by Membrane Filt.	WKS	1	PASI-E
		EPA 1664A	CLW	1	PASI-C

REPORT OF LABORATORY ANALYSIS

Page 4 of 8

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: STUART WWTP VPDES PERMIT APP

Pace Project No.: 92138254

Sample: OUTFALL 001

Lab ID: 92138254001

Collected: 11/12/12 09:30

Received: 11/12/12 15:30

Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
MBIO E.coli (Quantitation)	Analytical Method: EPA E.coli by Membrane Filt. Preparation Method: EPA E.coli by Membrane Filt.								
E.coli	5.2 MPN/100mL		1.0	1.0	1	11/12/12 16:14	11/13/12 16:21		
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	ND mg/L		5.0	1.1	1		11/20/12 11:52		

QUALITY CONTROL DATA

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92138254

QC Batch: GCSV/13357 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 92138254001

METHOD BLANK: 876049 Matrix: Water
Associated Lab Samples: 92138254001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	11/20/12 11:43	

LABORATORY CONTROL SAMPLE: 876050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.8	89	78-114	

MATRIX SPIKE SAMPLE: 876051

Parameter	Units	92138880001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	33.2	83	78-114	

QUALIFIERS

Project: STUART WWTP VPDES PERMIT APP
Pace Project No.: 92138254

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

PASI-E Pace Analytical Services - Eden

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: STUART WWTP VPDES PERMIT APP

Pace Project No.: 92138254

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92138254001	OUTFALL 001	EPA E.coli by Membrane Filt.	EDEN/10333	EPA E.coli by Membrane Filt.	EDEN/10334
92138254001	OUTFALL 001	EPA 1664A	GCSV/13357		




CHAIN-OF-CUSTODY / Analytical Request Document.

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

[illegible]

***Important Note:** By signing this form you are accepting Paco's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-C-020REV 07 15-May-2007

	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 12, 2012
	Document No.: F-EDN-CS-003-rev.07	Page 1 of 2
		Issuing Authorities: Pace Eden Quality Office

Client Name: CHA

Project # 92138254

Where Received: ☐ Huntersville ☐ Asheville ☒ Eden

Courier (circle): Fed Ex UPS USPS Client Commercial Pace Other

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used: IR Gun ED007

Type of Ice: Wet Blue None

☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add Subtract 1.0 c

Corrected Cooler Temp.: 1.2 c

Biological Tissue is Frozen: Yes No N/A

Date and initials of person examining contents: 11/12/12

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>E. coli</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>ww</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, W/DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JA


Date: 11/12/12

SRF Review: EW

Date: 11/14/12


Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 12, 2012
	Document No.: F-EDN-CS-003-rev.07	Page 1 of 2
	Issuing Authorities: Pace Eden Quality Office	

Client Name: CHA Consulting Project # 92139622

Where Received: ☐ Huntersville ☐ Asheville ☒ Eden

Courier (circle): Fed Ex UPS USPS Client Commercial Pace Other 

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used: IR Gun ED007 Type of Ice: Wet Blue None ☒ Samples on Ice, cooling process has begun

Temp Correction Factor: Add / Subtract 1.0 °C

Corrected Cooler Temp.: 3.3 °C Biological Tissue Is Frozen: Yes No N/A

Temp should be above freezing to 8°C

Comments: Date and Initials of person examining contents: 11/26/12 am

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>E. coli</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA <u>coliform</u> , <u>TOC</u> , <u>O&G</u> W-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: 1/4 Date: 11/26/12 SRF Review: PMB Date: 11/26/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 10, 2012

Ms. Sandra Warner
CHA, INC.
1901 Innovation Drive
Suite 2100
Blacksburg, VA 24060

RE: Project: Stuart WWTP 24794.1000.44000
Pace Project No.: 92140102

Dear Ms. Warner:

Enclosed are the analytical results for sample(s) received by the laboratory on November 29, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Stuart WWTP 24794.1000.44000
Pace Project No.: 92140102

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

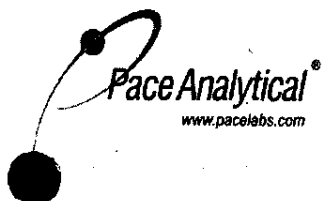
Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92140102001	OUTFALL 001	Water	11/29/12 09:30	11/29/12 12:25
92140102002	SLUDGE DRYING BED	Solid	11/29/12 09:30	11/29/12 12:25

REPORT OF LABORATORY ANALYSIS

Page 3 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Stuart WWTP 24794.1000.44000
Pace Project No.: 92140102

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92140102001	OUTFALL 001	EPA 200.7	JMW	3	PASI-A
		EPA 420.4	SAE	1	PASI-A
92140102002	SLUDGE DRYING BED	EPA 6010	JMW	1	PASI-A
		ASTM D2974-87	JEA	1	PASI-C

REPORT OF LABORATORY ANALYSIS

Page 4 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

Sample: OUTFALL 001

Lab ID: 92140102001

Collected: 11/29/12 09:30

Received: 11/29/12 12:25

Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Hardness, Calcium	56900	ug/L	250	250	1	12/01/12 11:00	12/04/12 22:30		
Hardness, Magnesium	14800	ug/L	412	412	1	12/01/12 11:00	12/04/12 22:30		
Total Hardness	71700	ug/L	662	662	1	12/01/12 11:00	12/04/12 22:30		
420.4 Phenolics, Total									
Analytical Method: EPA 420.4									
Phenol	0.087	mg/L	0.0050	0.0050	1		12/07/12 11:24	108-95-2	

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 5 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

Sample: SLUDGE DRYING BED Lab ID: 92140102002 Collected: 11/29/12 09:30 Received: 11/29/12 12:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Chromium	343	mg/kg	2.6	0.15	1	12/01/12 15:55	12/03/12 22:44	7440-47-3	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	83.0	%	0.10	0.10	1		12/03/12 13:38		

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 6 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

QC Batch: MPRP/12095

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET

Associated Lab Samples: 92140102001

METHOD BLANK: 882153

Matrix: Water

Associated Lab Samples: 92140102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hardness, Calcium	ug/L	ND	250	12/04/12 20:43	
Hardness, Magnesium	ug/L	ND	412	12/04/12 20:43	
Total Hardness	ug/L	ND	662	12/04/12 20:43	

LABORATORY CONTROL SAMPLE: 882154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hardness, Calcium	ug/L		12000			
Hardness, Magnesium	ug/L		21200			
Total Hardness	ug/L		33200			

MATRIX SPIKE SAMPLE: 882155

Parameter	Units	92139551001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Hardness, Calcium	ug/L	74900		87300			
Hardness, Magnesium	ug/L	29000		48100			
Total Hardness	ug/L	104000		135000			

MATRIX SPIKE SAMPLE: 882157

Parameter	Units	92140092010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Hardness, Calcium	ug/L	121 mg/L		132000			
Hardness, Magnesium	ug/L	64.2 mg/L		84900			
Total Hardness	ug/L	185 mg/L		216000			

SAMPLE DUPLICATE: 882156

Parameter	Units	92140092001 Result	Dup Result	RPD	Max RPD	Qualifiers
Hardness, Calcium	ug/L	121 mg/L	115000	5	20	
Hardness, Magnesium	ug/L	63.0 mg/L	60900	3	20	
Total Hardness	ug/L	184 mg/L	176000	4	20	

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 7 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

SAMPLE DUPLICATE: 882158

Parameter	Units	92140092011 Result	Dup Result	RPD	Max RPD	Qualifiers
Hardness, Calcium	ug/L	115 mg/L	118000	3	20	
Hardness, Magnesium	ug/L	59.8 mg/L	61500	3	20	
Total Hardness	ug/L	174 mg/L	180000	3	20	

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 8 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

QC Batch: MPRP/12093

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET

Associated Lab Samples: 92140102002

METHOD BLANK: 882145

Matrix: Solid

Associated Lab Samples: 92140102002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	mg/kg	ND	0.50	12/03/12 21:42	

LABORATORY CONTROL SAMPLE: 882146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	mg/kg	50	54.4	109	80-120	

MATRIX SPIKE SAMPLE: 882230

Parameter	Units	92140326003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	mg/kg	16.0	60.3	78.9	104	75-125	

SAMPLE DUPLICATE: 882231

Parameter	Units	92140326004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium	mg/kg	26.4	27.0	2	20	

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 9 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

QC Batch: PMST/5166

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 92140102002

SAMPLE DUPLICATE: 882049

Parameter	Units	92140094002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	22.5	23.0	2	25	

SAMPLE DUPLICATE: 882050

Parameter	Units	92140311001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.4	20.6	3	25	

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 10 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

QC Batch: WETA/13906

Analysis Method: EPA 420.4

QC Batch Method: EPA 420.4

Analysis Description: 420.4 Phenolics

Associated Lab Samples: 92140102001

METHOD BLANK: 883142

Matrix: Water

Associated Lab Samples: 92140102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenol	mg/L	ND	0.0050	12/07/12 11:16	

LABORATORY CONTROL SAMPLE: 883143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	.05	0.047	94	90-110	

MATRIX SPIKE SAMPLE: 883144

Parameter	Units	92139396002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	0.0087	.05	0.072	126	90-110 M1	

MATRIX SPIKE SAMPLE: 883146

Parameter	Units	92139991001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	0.014	.05	0.067	106	90-110	

SAMPLE DUPLICATE: 883145

Parameter	Units	92139724003 Result	Dup Result	RPD	Max RPD	Qualifiers
Phenol	mg/L	0.038	0.039	2	20	

SAMPLE DUPLICATE: 883147

Parameter	Units	92140169001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phenol	mg/L	0.012	0.014	19	20	

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 11 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Stuart WWTP 24794.1000.44000

Pace Project No.: 92140102

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92140102001	OUTFALL 001	EPA 200.7	MPRP/12095	EPA 200.7	ICP/11060
92140102002	SLUDGE DRYING BED	EPA 3050	MPRP/12093	EPA 6010	ICP/11061
92140102002	SLUDGE DRYING BED	ASTM D2974-87	PMST/5166		
92140102001	OUTFALL 001	EPA 420.4	WETA/13906		

Date: 12/10/2012 11:23 AM

REPORT OF LABORATORY ANALYSIS

Page 13 of 13

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

www.pacelabs.com


Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	CHA. Consulting, Inc.	Report To:	Lawrence Huffman	Attention:	INVOICE@cha.companies.com
Address:	1901 Innovation Drive, Suite 200 Blacksburg, VA, 24060	Copy To:	Amanda Marshall	Company Name:	
Email To:	INVOICE@cha.companies.com	Purchase Order No.:		Address:	
Phone:	540-552-5548	Project Name:	Shut WMP	Price Quote	
Fax:	540-552-5577	Project Number:	25790 Cont. 6000	Reference:	
Requested Due Date/TAT:	10' Day			Pack Project	
				Manager:	0060 Y447
				Pack Profile #:	Kevin Graham
REGULATORY AGENCY		REGULATORY AGENCY		REGULATORY AGENCY	
<input checked="" type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> DRINKING WATER	<input type="checkbox"/> OTHER
Site Location				STATE:	
V9				V9	
Page: _____ of _____		1567263			

[illegible]

ORIGINAL	SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	PRINT Name of SAMPLER: Andrew J. Dalton					
	SIGNATURE of SAMPLER: Andrew J. Dalton					
	DATE Signed (MM/DD/YYYY): 11-29-2012					

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 12, 2012
	Document No.: F-EDN-CS-003-rev.07	Page 1 of 2
		Issuing Authorities: Pace Eden Quality Office

Client Name: CHA Consulting Project # 92140102

Where Received: ☐ Huntersville ☐ Asheville ☒ Eden

Courier (circle): Fed Ex UPS USPS Client Commercial Pace Other

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used: IR Gun ED007

Type of Ice: Wet Blue None

☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add Subtract 1.0 C

Corrected Cooler Temp.: 3.1 C

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: 11/29/12

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. Analysis Missing (but on bottles)
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sludge - 6010 ICP metals Time Collected Outfall 001 - Hardness + Phenol 09:30
-Includes date/time/ID/Analysis Matrix:	<u>W W</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Hard to read on COC</u>
exceptions: VOA, coliform, TOC, O&G, WHDRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: Amenda Mersl Date/Time:

Comments/ Resolution: Amenda previously informed to analyze Total phenolics & Hardness on wastewater sample and Total Chromium on Sludge sample, K6

SCURF Review: 1/29

Date: 11/29/12

SRF Review: VCH

Date: 12/3/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)